

Nordic Ecolabelling for Cleaning products



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Contact information

In 1989, the Nordic Council of Ministers decided to introduce a voluntary official ecolabel, the Nordic Swan Ecolabel. These organisations/companies operate the Nordic Ecolabelling system on behalf of their own country's government. For more information, see the websites:

Denmark

Ecolabelling Denmark
www.svanemaerket.dk

Finland

Ecolabelling Finland
www.joutsenmerkki.fi

Sweden

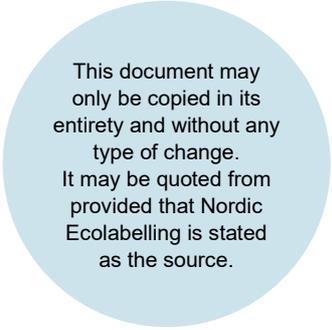
Ecolabelling Sweden
www.svanen.se

Iceland

Ecolabelling Iceland
www.svanurinn.is

Norway

Ecolabelling Norway
www.svanemarket.no



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1 Environmental communication guideline for Nordic Swan Ecolabel cleaning products

Nordic Swan Ecolabelled cleaning products are among the best cleaning products in terms of environmental profile. The whole life cycle of the products is considered, and strict requirements are set for the products' ingredients and packaging. The raw material extraction, production of the cleaning product, transportation, use phase, and end of life are considered in the requirements.

Nordic Swan Ecolabelled cleaning products:

- Offer effective cleaning performance
- Meet strict environmental requirements for chemicals to avoid long-term, negative effects in nature (biodegradability), to avoid harmful chemicals accumulating in animals and humans (bioaccumulation), and to avoid substances that are toxic to, for example, fish and crustaceans (ecotoxicity)
- Must not contain microplastics
- Meet strict health requirements for chemicals, including a ban on adding substances classified to cause cancer, toxic to reproduction, or to potentially damage genetic material. Also identified or potential endocrine disruptors on up-to-date lists from EU and national authorities or by classification are banned
- Use packaging design and material composition choices that promote material recycling and reduce resource use, contributing to a circular economy
- Promote responsible sourcing of renewable raw materials, and any palm oil or palm kernel oil in the product is RSPO certified (mass balance, segregated, or identity preserved)

The environmental impacts throughout the lifecycle of this product group and Nordic Swan Ecolabel's identification of where ecolabelling can have the greatest effect is described in Section 6 Environmental impact of cleaning products.

2 What can carry the Nordic Swan Ecolabel?

Product group definition

The criteria apply to products designed to clean hard surfaces and textile flooring. The products can be in the form of concentrated products, ready-to-use (RTU) products, and mix-it-yourself RTU products. Products for consumers and/or professionals can be labelled.

The product group encompasses cleaning products intended for indoor and outdoor, general and regular cleaning of:

- Fixed surfaces (e.g., floors, walls, ceilings, doors, tiles, sauna)
- Kitchen surfaces and equipment (e.g., work surfaces, kitchen cabinets, stoves, and interior of kitchen equipment such as ovens, dishwashers, coffee machines, milk frothers, ice cream makers)
- Sanitary installations (e.g., WCs, baths, showers, wash basins, cabinets)
- Interior of laundry machines
- Windows, glass, and mirrors
- Textile flooring, such as carpeted floors
- Floors with wash polish and wash-and-wax care products
- Outdoor surfaces (e.g., facades, patios, terraces, grills, fireplaces, roofs)

Cleaning products containing micro-organisms are also included in the product group and are subject to specific requirements (see O11).

Subcategories

The product group is divided into subcategories. These subcategories are used in requirements where there are several different requirement levels. The subcategories are described in more detail in the background document.

- **Concentrated, consumer:** Consumer products that require dilution with water prior to use.
- **RTU, consumer:** Consumer products that are pre-diluted and ready for use straight from the package including foam/spray products and liquid toilet cleaners.
- **Concentrated, professional:** Professional products that require dilution with water prior to use.
- **RTU, professional:** Professional products that are pre-diluted and ready for use straight from the package including foam/spray products and liquid toilet cleaners.
- **RTU window cleaner:** Consumer and professional window and glass cleaners that are pre-diluted and ready for use straight from the package including foam/spray products.
- **Outdoor surface cleaners:** Consumer and professional cleaners that are for use outdoors. These are typically concentrated products for large surfaces.

Products with multiple uses or users

Concentrated products that can be used both in a diluted state, such as diluted in a bucket of water, and in a more concentrated state, such as diluted with a small quantity of water for

use in a foam/spray bottle, must fulfil the requirements for both concentrated (diluted in bucket) and RTU (foam/spray bottle) products.

Products that are sold to both consumers and professionals, but not more than 80% to either group, must meet the stricter requirement, where applicable, for either consumer or professional products.

Products designed for several areas of use, such as WC and bathroom cleaner (walls, floor, etc.), must fulfil the requirements of each applicable category.

Other product groups

Nordic Ecolabelling has separate criteria for other types of cleaning products including:

- Care products for vehicles 013
- Industrial cleaning and degreasing agents 065
- Cleaning agents for use in the food industry 070

Nordic Ecolabelling will decide in case of questions about which product group criteria should be used.

What cannot be licensed

Relevant cleaning products in addition to those mentioned above can be included in the product group upon request. However, these criteria do not apply to products intended solely for the purpose of:

- limescale removal
- unblocking blockages, cleaning drains
- restricting or preventing biological growth (algae, mould, bacteria)
- continuous cleaning, e.g., fragrance block for cleaning WCs
- cleaning products for refrigerated rooms
- cleaning wipes
- floor wax and floor polish without cleaning effect

Furthermore, products within the scope of the Biocides Regulation 528/2012 cannot be Nordic Swan Ecolabelled. This includes cleaning products that intend to have a biocidal effect or claim to be antibacterial, antimicrobial, antiseptic, or disinfecting. In addition, Nordic Ecolabelling does not allow products making claims about antibacterial, antimicrobial, antiseptic or disinfectant ingredients.

The decision on which products can be included in the product group is made by Nordic Ecolabelling.

2.1 Justification of the product group definition

For a description of the product group definition, see “What can carry the Nordic Swan Ecolabel”.

Concentrated vs. ready-to-use products

Concentrated cleaning products need to be diluted with water before use on the area or object of cleaning. Concentrates are often diluted with a larger volume of water (5-10 L or more) and result in a product that can be used on a large surface area. Concentrates also

include, for example, dishwasher, coffee machine, and laundry machine cleaners that are diluted with water in the machine. Concentrates are typically used during a short duration of a couple days or less. Concentrated products are judged on their performance compared to other concentrated products.

Ready-to-use (RTU) cleaning products are pre-diluted and ready for use directly on the area or object of cleaning. A RTU product's performance is measured against a RTU reference product. RTU products are included in the criteria to address the large market for RTU products, particularly in the consumer market, after considering both advantages and disadvantages in their environmental life cycle.

The primary advantage of RTU is that it can prevent overdosing since the product is pre-diluted in the appropriate concentration for cleaning. Overdosing leads to a higher burden of chemicals released into the environment. Furthermore, overdosing affects all areas of the life cycle since new products are produced and consumed at an unnecessarily high rate.

Environmental disadvantages are the climate impact associated with transporting products with high water content and the relatively large amount of packaging required compared to concentrated products.

Hence, Nordic Ecolabelling restricts RTU products to those intended for use on smaller surfaces (i.e., it must be clear from the text and pictograms submitted in requirement O1 that the product is intended for small surfaces such as tables, sinks, toilets, mirrors).

Furthermore, to address the health risks of exposure to aerosols in spray mist, Nordic Ecolabelling sets a requirement O22 to only allow foam/sprays with a foamer mesh or equivalent aerosol-reducing device. These products are referred to as foam/spray products.

Mix-it-yourself RTU products

Mix-it-yourself RTU cleaning products are sold as concentrated refill products that are to be diluted at least 10 times by the user to form the final RTU product. Compared to concentrates, mix-it-yourself RTU products are diluted with a smaller volume of water (often 1 L or less) and result in a product that is then used as an RTU product in terms of application to smaller surface area, ability to store for longer periods, and performance measured against an RTU reference product. The concentrated refill product may e.g. be a vial of concentrated product, tablet, or water-soluble sheet. The product shall be diluted in a reusable bottle in a manner that the person handling the concentrated products does not run the risk of coming into contact with the product. These mix-it-yourself RTU products can provide a more accurate dosage compared to a conventional concentrated product where the customer determines the amount of concentrate that is diluted. The ecotoxicity and biodegradability calculation requirements (O12, O13, O14) are based on the diluted solution and use the applicable RTU calculation limits.

Consumer vs. professional products

Nordic Ecolabelling sets different requirements for professional and consumer cleaning products. To determine whether a product is for professional use, consumer use, or both, percent sales to the professional market (estimated based on sales data) and the sales channel should be considered, as shown in Table 1.

Table 1 How to determine which requirement a product must fulfil based on sales market

Percent sales to professional market (estimated)	Sales channel	Needs to comply with requirements for
Over 80%	Wholesalers	Professionals
Between 20% and 80%	Wholesalers and retailers	Consumers and Professionals (whichever is strictest for a given requirement)
Under 20%	Retailers	Consumers

Consumer products are for use by consumers in or around their home and in some workplaces and are primarily sold through retailers.

Products for professional use are marketed for use in professional contexts such as cleaning services, institutions, and within the public sector. Products sold for use in the workplace are thus not automatically considered to be professional products under this definition. The product is not considered to be professional if it is primarily sold through retailers.

Professional kitchen cleaning products covered by 026 Cleaning products criteria are for use in cafés, à la carte restaurants, and other smaller, non-institutional kitchens. Cleaning agents for large-scale food production are included in product group 070 Cleaning agents for use in the food industry.

Products that are marketed to consumers, but that are also sold via wholesalers for professional use exist.

If the product is sold to both consumers and professionals, i.e., professional sales account for between 20 and 80% of sales, it will be considered both a consumer and professional product. Where Nordic Ecolabelling sets different requirements for consumer vs. professional products, the product must meet the stricter requirement. This ensures that both non-professional users and professional users of those products receive the intended benefits and safeguards of the requirements. If there is insufficient information, the product will fall in this category by default.

If there is any confusion about whether a product is for professionals or consumers, Nordic Ecolabelling may require documentation explaining where the product is intended to be sold.

Explanation for the product group subcategories

Concentrated, consumer: Concentrated products that require dilution with water prior to use that are designed for the consumer market. Product formats in this subcategory include concentrated liquids, powders, tablets, capsules, and water-soluble sheets.

This subcategory contains products for hard surfaces in the home, such as floors, walls, ceilings, kitchen work surfaces, grills, tiles, WCs, bathtubs, showers, and interior of kitchen equipment, ovens, dishwashers, and laundry machines. Wash polish/wash-and-wax floor care products are also included. Concentrated products for windows (inside and outside) are included, while RTU products for windows have their own subcategory. Products for use outdoors (other than windows) have their own subcategory.

RTU, consumer: Pre-diluted consumer products that are ready to use without dilution including foam/spray products. This includes products for kitchens, ovens, bathtubs,

showers, WCs, and so on, but not for large areas such as floors and walls. RTU products shall be intended for use on smaller surfaces and “spot cleaning”. Please note requirement O22 regarding aerosol reducing nozzles. Excluded are RTU window cleaners, which have their own subcategory.

In criteria generation 6, consumer WC cleaners had their own subcategory, but license data showed this differentiation from other RTU products was not needed.

Concentrated, professional: This subcategory includes professional products that require dilution with water prior to use. Product formats in this subcategory include concentrated liquids, powders, tablets, capsules, and water-soluble sheets.

This subcategory contains products for indoor surfaces, such as floors, walls, ceilings, kitchen work surfaces, grills, tiles, WCs, bathtubs, showers, and interior of kitchen equipment, ovens, dishwashers, and laundry machines. Wash polish/wash-and-wax floor care products are also included. Chemical products for cleaning of textile flooring are also included in this sub-category. Concentrated products for windows (inside and outside) are included, while RTU products for windows have their own subcategory. Products for use outdoors (other than windows) have their own subcategory.

RTU, professional: Professional products that are pre-diluted and ready for use including foam/spray products. This category includes products for WCs, kitchens, bathtubs, showers, etc., but not for large areas such as floors and walls. RTU products shall be intended for use on smaller surfaces and “spot cleaning.” Please note requirement O22 regarding aerosol reducing nozzles.

Excluded are RTU window cleaners, which have their own subcategory. Foam products for large surfaces, for example, industrial food-production kitchens are included in product group 070 Cleaning agents for use in the food industry.

RTU window cleaners: Consumer and professional window and glass cleaners that are pre-diluted and ready for use straight from the package including foam/spray products. Please note requirement O22 regarding aerosol reducing nozzles.

Outdoor surface cleaners: Consumer and professional cleaners that are for use outdoors. These are typically concentrated products for large surfaces like facades, patios, and terraces. They can also be used to clean, for example, outdoor grills, fireplaces, decking, and roofs. Since these products do not pass through a water treatment facility before entering the environment, strict chemical limits have been set for toxicity and biodegradability.

Specialized outdoor products for graffiti removal and cleaning for solar modules are covered under PG 065 Industrial cleaning and degreasing agents. Car, boat, and other vehicle cleaners are covered under PG 013 Care products for vehicles.

Subcategory types from criteria generation 6 that are now merged into other subcategories

For criteria generation 7, an effort was made to simplify the number of subcategories. License data supported combining some subcategories for the purpose of setting limit values.

Wash polish/wash-and-wax care products for floors, combined cleaning and polish improvers, are now included in the concentrate subcategories (consumer or professional). These floor cleaning products are diluted prior to use and contain care products: film-forming

components such as polymers, resin and/or wax. (For wash polish products for cars and boats, see "Care products for vehicles 013.")

New product types for criteria generation 7

Please note that the newly included product types in generation 7 for cleaning of the interior of kitchen equipment and laundry machines must fulfil the requirements of the relevant subcategory, e.g., concentrated consumer or concentrated professional. However, Nordic Ecolabelling is aware that these subcategories might not be suited for the new product types. Due to lack of data during the criteria revision, it has not been possible to create new subcategories with separate limit values for these types of products.

Similarly, we also lack data on super-concentrated products (i.e., products significantly more concentrated than standard concentrates) to know how these can be handled in the criteria. We ask any potential applicant to contact Nordic Ecolabelling with more information on these products.

Waters for cleaning

Nordic Ecolabelling has evaluated different types of "waters" for cleaning. These "waters" are typically deionized or demineralized water, or dilute solutions containing very low concentrations of a single ingredient. Nordic Ecolabelling takes a positive stance on using fewer chemical ingredients for cleaning, provided the desired cleaning effect is still achieved. However, these "waters" cannot all be regarded in the same way, as the health and environmental impacts of their ingredients and cleaning efficacy vary significantly. Therefore, they are evaluated from a life cycle perspective as described on the Nordic Swan Ecolabel website,¹ and "waters" containing substances that are excluded in the criteria are not allowed.

Products which cannot be Nordic Swan Ecolabelled as cleaning products

Cleaning wipes were examined to assess whether they should be included in this product group. Wipes are usually made of paper or textiles and moistened with water and various chemicals, depending on the area of use. The most common type of wipes is personal hygiene products such as baby wipes, face wipes and so on, which are included in the criteria for the Nordic Swan Ecolabelling of cosmetics to make a difference in an already well-established product type. There are also wipes for cleaning fixed surfaces, and these are known as cleaning wipes. While also a growing market, the cleaning wipe format is still a limited share of the whole Nordic cleaning products market. Since the wipe material cannot be sent for material recovery, Nordic Ecolabelling decided not to expand the product group to include wipes. Nordic Ecolabelling does not wish to promote a product that cannot be recycled, and that pose a risk for being flushed down the toilet, when there are less resource-intensive alternatives. Disposable wet wipes are not compatible with the circular economy in the opinion of Nordic Ecolabelling.

Cleaning products intended for certain specialist cleaning purposes cannot be ecolabelled under these criteria. This includes products intended solely for the purpose of:

- limescale removal
- unblocking blockages, cleaning drains

¹ <https://www.nordic-swan-ecolabel.org/nordic-ecolabelling/environmental-aspects/chemicals-nano-and-microplastics/waters-for-cleaning/>

- restricting or preventing biological growth (algae, mould, bacteria)
- total or partial disinfection
- continuous cleaning, e.g., fragrance block for cleaning WCs
- cleaning products for refrigerated rooms
- floor wax and floor polish without cleaning effect

These products are not included in these criteria, since the criteria are aimed at more general and regular cleaning. In some cases, these products use very corrosive or biocidal ingredients that for safety or environmental reasons are not permitted in this product group. In other cases, they have quite different formulations than cleaning products so they would not pass in this product group.

Products within the scope of the Biocides Regulation 528/2012, including products claiming to be antibacterial, antimicrobial, antiseptic, or disinfecting, cannot also make green claims, according to the regulation, and therefore cannot be Nordic Swan Ecolabelled. Furthermore, Nordic Ecolabelling does not allow products that are marketed with claims about antibacterial, antimicrobial, antiseptic, or disinfectant ingredients. Use of products or ingredients with antibacterial, antimicrobial, antiseptic, or disinfectant properties can contribute to increased bacterial resistance and may also harm beneficial microbial populations.

In the event of dispute, Nordic Ecolabelling will determine whether a product may be ecolabelled under these criteria.

3 How to read this criteria document

The text describes how the applicant shall demonstrate fulfilment of each requirement. There are also icons in the text to make this clearer. These icons are:

↑ Upload

📍 Requirement checked on site

To be awarded a Nordic Swan Ecolabel licence:

- All obligatory requirements must be fulfilled.
- Nordic Ecolabelling must inspect the site.

All information submitted to Nordic Ecolabelling is treated confidentially. Suppliers can send documentation directly to Nordic Ecolabelling, and this will also be treated confidentially.

4 Summary

Cleaning products designed for general and regular cleaning of hard surfaces and textile flooring are eligible for the Nordic Swan Ecolabel. The criteria document applies to cleaning products for indoor and outdoor use by consumers and professionals in the form of concentrated products and ready-to-use (RTU) products including mix-it-yourself RTU products.

Nordic Ecolabelling recognizes a good potential to reduce important environmental impacts of cleaning products by setting requirements for:

- Raw material sourcing, section 5.2 - including requirements for plant materials used for production of chemical raw materials (especially palm oil)
- Ingoing substances, section 5.3 - addressing exposure of chemicals harmful to health
- Ecotoxicity and biodegradability, section 5.4 - addressing impacts to aquatic organisms and ecosystems
- Performance, section 5.5 - to avoid ineffective products that lead to overdosing, a problem that wastes both raw materials and packaging while increasing air and water pollution
- Packaging, section 5.6 - to address plastic and other packaging raw material resource use and recyclability
- License maintenance, section 5.7 - to ensure quality and traceability needed to ensure fulfilment of Nordic Ecolabelling requirements

Changes to the requirements from the previous generation of the criteria include:

- The product group definition clarifies overlaps with other product groups while expanding the product group to include additional product types including outdoor surface cleaners, kitchen equipment cleaners, and dishwasher and laundry machine cleaners
- Supply Chain Policy and Supplier Code of Conduct requirement is added
- The new EUH hazard classes for endocrine disruptors, PBT/vPvB, PMT/vPvM, STOT RE 1, and ozone layer are added to the prohibited classifications for ingoing substances
- The list of excluded substances is expanded with new substances/substance groups, and the definitions for potential or identified endocrine disruptors, microplastics, and nanomaterials/-particles are updated
- The restricted fragrance substances which are subject to declaration now includes the expanded list from the Cosmetics Regulation
- Revised requirements for products containing micro-organisms. Consumer and professional products for numerous uses can contain micro-organisms if provisions for safety are upheld.
- Surfactants are no longer exempted from the long-term environmental effects requirement, M factor has been introduced for substances classified as H410, and the limit values have been adjusted
- CDV and biodegradability limits are stricter, and calculations must be based on the DID-list version 2023 or later

- The performance test for professional products has stricter requirements and revised forms for the user tests compared to the previous generation
- For rigid plastic packaging of PE and PP, the label must be made of the same plastic material as the container, and paper labels are no longer permitted at all

4.1 Changes compared to previous generation

In generation 7, specific requirements for wash polish/wash-and-wax care products have been incorporated into the requirements for all product types and no longer have their own section. This applies to requirements O16-O26 in generation 6 which are now incorporated into requirements O2-O17 in generation 7. Furthermore, the environmental management and regulatory requirements (O30-O36 in generation 6) have been changed to "License maintenance" requirements O23-O24 in generation 7. As a result, the numbering of many of the requirements has changed. Other changes from generation 6 to 7 are listed below.

Table 2 Overview of changes to criteria for cleaning products generation 7 compared with previous generation 6.

Requirement generation 7	Requirement generation 6	Same requirement	Change	New requirement	Comments
O1 Description of the product	O1	X			
O2 Classification of the cleaning product	O5, O16		X		Strengthened: New EUH hazard classes added.
O3 Supply Chain Policy and Code of Conduct				X	Supply Chain Policy and Supplier Code of Conduct requirement for companies >250 employees
	O2 Sustainable raw materials				Removed: no longer required to demonstrate increased use of renewable raw materials
O4 Certified raw materials from oil palms	O3		X		Editorial change: Minor adjustments to required documentation
O5 Classification of ingoing substances	O6, O17		X		Strengthened: New EUH hazard classes, STOT RE1, and ozone hazard classes added
O6 Excluded substances	O7, O18		X		Strengthened: Definitions for endocrine disruptors and nanoparticles updated. New substances added. All isothiazolinones, siloxanes, and phosphorous are excluded.
O7 Microplastics	O7, O18		X	X	Strengthened: Updated with REACH definition and made into its own requirement (previously in O7, O18 Prohibited substances)
O8 Surfactants	O4		X		Strengthened: Refers to DID list 2023 or later
O9 Fragrances	O8, O19		X		Strengthened: Includes expanded list of fragrance allergens from Cosmetics Regulation
O10 Preservatives	O9, O20		X		Strengthened: Changed definition of bioaccumulating
O11 Micro-organisms	O10		X		Strengthened: More product types can contain micro-organisms. Stricter requirements for micro-organism identification (whole gene sequencing) and safety (QPS list). New methods and documentation requirements

O12 Long-term environmental effects	O11, O21		X		Strengthened: Removed exemption for surfactants and included M-factor. Changed product subcategories and raised long-term effects calculation limits for all subcategories except outdoor cleaning products, which was lowered.
O13 Critical dilution volume	O12, O22		X		Strengthened: Changed product subcategories and tightened CDV calculation limits by about 50%. Removed exemption for high molecular weight substances for wash polish/wash-and-wax care products
O14 Aerobic and anaerobic biodegradability	O13, O23		X		Strengthened: Changed product subcategories and tightened aNBO and anNBO calculation limits by about 50%. Removed exemption for high molecular weight substances for wash polish/wash-and-wax care products.
O15 Performance test – laboratory test	O14, O24	X			
O16 Performance test – user test	O15, O25		X		Strengthened: User test must now be conducted by users who are professional cleaning staff
O17 Recycling design of packaging	O26-A		X		Editorial change: Changed wording in exemption for small parts in dispensing systems.
O18 Labels for rigid plastic packaging	O26-B		X		Strengthened: Updated label requirements to improve recyclability of the packaging
O19 Recycling design of pouches	O27		X		Editorial change: Changed wording in exemption for pouch valves.
O20 Cardboard packaging for liquid products				X	New requirement for design for recycling of cardboard packaging for liquid products
O21 Weight-Utility Ratio	O28	X			
O22 Packaging for foam/spray products and concentrated products for refill	O29	X			
O23 Customer complaints				X	
O24 Traceability	O35		X		Editorial changes
	O30 Responsible person and organizations				Removed
	O31 Documentation				Removed
	O32 Quality of the cleaning product				Removed
	O33 Planned changes				Removed
	O34 Unplanned non-conformities				Removed
	O36 Legislation and regulations				Removed

5 Requirements and justification of these

The requirements in the criteria document and accompanying appendices apply to all ingoing substances in the Nordic Swan Ecolabelled product. Impurities are not regarded as ingoing substances and are exempt from the requirements.

Ingoing substances and impurities are defined below, unless stated otherwise in the requirements.

Definitions

Terms	Definition
RTU (Ready- to-use)	Cleaning products that are pre-diluted and ready for use directly on the area or object of cleaning.
Concentrated products	Cleaning products that need to be diluted with water before use on the area or object of cleaning.
Mix-it-yourself RTU products	Cleaning products that are to be diluted at least 10 times by the user to form the final RTU product. The product may be, for example, a vial, tablet, or water-soluble sheet. The product is diluted in a reusable bottle in a manner that the person handling the concentrated products does not run the risk of coming into contact with the product. In the previous generation, these products were called "concentrated products for refill for RTU bottles which are always diluted at least 10 times by the user to the finished product with a certain amount of water."
Foam/spray products	The term "foam/spray" is used to denote foam or spray products. In accordance with requirement O22, these must have a nozzle that reduces aerosol formation.
Consumer products	Cleaning products for use by consumers in or around their home that are primarily sold through retailers. Products are considered for consumer use if more than 80% of sales are to consumers. See also Table 1.
Professional products	Cleaning products that are marketed for use in professional contexts such as cleaning services, institutions, and within the public sector. Products sold for use in the workplace are thus not automatically considered to be professional products under this definition. The product is not considered to be professional if it is primarily sold through retailers. Products that are primarily marketed to consumers, but that are also sold via wholesalers for professional use exist. Products that are sold to both consumers and professionals, are considered for the professional market if more than 80% of sales are to professional users. A threshold of 80% makes it clear that the majority of the products are sold to that market. See also Table 1.
Products for both professionals and consumers	For products sold to both consumers and professionals, but not more than 80% to either group. Where applicable, these products must meet the stricter requirement for either consumer or professional products. See also Table 1.
Calculation sheet	Applicants must use an Excel sheet to calculate limit values e.g., CDV, aNBO, anNBO, WUR. Download the calculation sheet from the Nordic Swan Ecolabel website. ²
In-use solution	Mass of product used per volume cleaning solution. This value (grams/liter in-use solution) is used in the calculation sheet. For concentrated products, this is the grams per liter after dilution. For pre-diluted/RTU products, use grams for 1 liter product.
Micro-organism / microbial cleaning product	Micro-organism as defined in Article 3(1), point (b), of Regulation (EU) No 528/2012. ³ A microbial cleaning product has one or more micro-organisms intentionally added, either on its own or via one of the components of the product.
Ingoing substances**	All substances* in the cleaning product including additives (e.g. preservatives and stabilisers) in the raw materials. Substances known to be released from ingoing

² <https://www.nordic-swan-ecolabel.org/criteria/cleaning-products-026/>

³ Regulation (EU) No 528/2012 of the European Parliament and of the Council of 22 May 2012 concerning the making available on the market and use of biocidal products. <https://eur-lex.europa.eu/eli/reg/2012/528>

	<p>substances (e.g. biocidal active substances generated by preservatives, such as formaldehyde, and arylamine and in situ-generated preservatives) are also regarded as ingoing substances. Foil that is not removed before use of the product, and that is water soluble is also considered ingoing substances. See more concerning definition of ingoing substances and impurities below the Definitions Table.</p> <p><i>*N.B. the difference from the definition of substances in the REACH Regulation (EC) No 1907/2006. Whereas a REACH substance encompasses a chemical element or compound as well as its stabilising additives and process impurities, a substance here refers to each of the constituents separately. The constituents of a UVCB substance (Unknown or Variable composition, Complex reaction products or of Biological materials) are also regarded separately, and all known constituents shall be regarded.</i></p>
Impurities**	<p>Trace levels of pollutants, contaminants and residues from production, including production of raw materials that remain in the cleaning product in concentrations ≤ 100 ppm (≤ 0.0100 w%, 100,0 mg/kg). For formaldehyde other than as a biocidal active substance and for arylamine, the corresponding concentration is ≤ 50 ppm (≤ 0.0050 w%).</p> <p><i>Examples of impurities: Background environmental pollutants from feedstock, as well as contaminants and residues from production such as reactants (incl. monomers), reagents, catalysts, by-products, scavengers, detergents for production equipment, and carry-over from other or previous production lines.</i></p> <p>Impurities in the raw materials in concentrations $\geq 10\ 000$ ppm (≥ 1.0000 w%) are always regarded as ingoing substances, regardless of the concentration in the final Nordic Swan Ecolabelled product.</p>
DID-list	<p>The DID-list (Detergent Ingredient Database) part A contains information on toxicity and degradability of several substances that are used in detergents and cleaning products. If an ingoing substance is included on the DID-list, the data from the DID-list must be used for calculations of the amount of aerobic/anaerobic non-biodegradable organics, the critical dilution value and biodegradability and toxicity. If a substance is not included on the DID-list, or data is missing, the methods described in part B of the DID-list must be used. For this criteria generation, the DID-list dated 2023 or later versions apply. See further details in Appendix 3. The DID-list can be obtained from the Nordic Swan Ecolabelling websites.</p>
Sales packaging	<p>In accordance with Regulation (EU) 2025/40 on Packaging and Packaging Waste (PPWR), the term "sales packaging" means packaging conceived so as to constitute a sales unit consisting of products and packaging to the end user at the point of sale.</p>
Primary packaging	<p>In accordance with EU Directive 94/62/EC on packaging and packaging waste, the term "primary packaging" is defined as consumer packaging, i.e., packaging conceived to constitute a sales unit to the final user or consumer at the point of sale.</p>
Container	<p>Bottles, foam/spray bottles and similar.</p>
Closure	<p>Caps/lids, dosage equipment, pumps and foam/spray triggers mounted on the packaging.</p>
Label	<p>Traditional label and shrink film label/sleeve.</p>
Concentrated product, main packaging	<p>Packaging containing the undiluted concentrated product, which is to be diluted with water in a refillable packaging.</p>
Concentrated product, refillable packaging	<p>Packaging in which the concentrated product is diluted with water and thus refilled multiple times.</p>
Post-consumer/commercial recycled material	<p>Post-consumer/commercial recycled material is defined according to ISO 14021:2016: "post-consumer/commercial" is defined as material generated by households or commercial, industrial or institutional facilities in their role as end-users of the product that can no longer be used for its intended purpose. This includes returns of material from the distribution chain.</p>
Bio-based material for packaging	<p>Bio-based means that the material consists of biomass that may have undergone physical, chemical, or biological treatment(s). Biomass has a biological origin but excludes material that is found embedded in geological and/or fossil formations. Examples of biomass are: (all or parts of) plants, trees, algae, marine organisms, microorganisms, animals, etc.</p>
Waste and residual products for packaging	<p>Waste and residual products refer to definitions in EU Directive 2018/2001/EC. Residues come from agriculture, aquaculture, fisheries, and forestry, or they can be processing residues. A processing residual product is a substance that is not one of</p>

	the end products that the production process directly strives for. Residues must not be a direct target of the process, and the process must not be changed to intentional production of the residual product. Examples of residual products are e.g., straw, husks, pods, the non-edible part of maize, manure, and bagasse. Examples of processing residues are e.g., raw glycerine or brown lye from paper production.
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****Additional information concerning definitions of ingoing substances and impurities**

Limit values: The limit for excluded ingoing substances is 0 ppm (unless otherwise stated), while there's a specific defined limit for impurities. The impurity limit applies separately to each individual excluded substance, from each individual raw material. Concentrations of different impurities with the same excluded classification or substance group characteristics shall not be summed up to meet the impurity limit in the labelled product. Also, concentrations of an individual impurity, originating from different raw materials, shall not be summed.

UVCB substances: UVCB substances (Unknown or Variable composition, Complex reaction products or of Biological materials) have a composition of constituents that is not completely known or is variable from time to time. For UVCB substances, all constituents that are known must be declared in the Nordic Swan Ecolabel raw material appendix based on the best available knowledge. All constituents are considered individually and are subject to the chemical requirements, including for instance those on excluded substances and excluded classifications.

However, in the requirements O12 Long-term environmental effects, O13 Critical dilution volume (CDV) and O14 Content of substances which are not aerobically and/or anaerobically biodegradable, the UVCB substance can be considered as one ingoing substance and placed in a single row in the calculation sheet. If the UVCB substance can be assigned a DID-number, the data on the DID-list must be used. N.B. that for UVCBs that are perfumes, a specific approach applies regarding the requirement on environmentally hazardous substances, as described below.

Perfumes: Perfumes constitute a group of complex raw materials that are often, but not always, UVCBs. All perfume constituents must be declared the same way as described for UVCBs above. A perfume can also be placed in one row in the calculation sheet. However, for requirement O12 Long-term environment effects, a perfume must not be regarded as one ingoing substance, irrespective of whether the perfume is an UVCB or not. Instead, each constituent of the perfume mixture must be regarded in a calculation of the weighted sum of substances classified H410, H411 and H412. For perfumes, specific toxicity and biodegradability data can be used. If data is not available, the data on DID 2549 must be used.

5.1 General requirements

The requirements (O1-O24) are for all product types, unless otherwise stated.

O1 Description of the product

The applicant must provide the following information about the product:

- Description of the product, including its area of use, in accordance with “What can carry the Nordic Swan Ecolabel?” (consumer/professional product, RTU/ concentrated, etc.)
- User instructions that clearly explain how the product should be used.
- If the product is designed to be diluted before use, the recommended dose for normal soiling/normal use must be stated clearly and simply on the primary packaging and in the product data sheet
 - For consumer products, the dosing must be stated as x number of millilitres to y litres of water or as z number of caps to y litres of water.
 - For products intended for professional use, the dosing may, for example, be stated as x ml or an equivalent y pump or similar per z litre of water. The information sheet or technical data sheet must include a recommendation on dosing equipment (e.g., pump, measuring vessel, pipette or similar).
- A complete formulation for the product. Foil that is not removed before use of the product is considered as part of the formulation/recipe. The formulation must for each ingoing raw material include:
 - Trade name
 - Chemical name for the main component, and, if relevant, additives (e.g., colorants, preservatives and stabilizers)
 - Amount (both with and without solvents, e.g., water)
 - CAS no. / EC no.
 - Function
 - DID no. for substances that can be placed in the DID list*
- A safety data sheet for each ingoing raw material

**The DID number is an ingredient’s number on the DID list, version 2023 or later, which is used in calculating chemical requirements. The DID list can be obtained from Nordic Ecolabelling’s websites, see contact information at the beginning of the document.*

- † Description of the product in accordance with “What can carry the Nordic Swan Ecolabel?”, e.g. label or other documentation. Label and product data sheet (if available) that includes dosing and user instructions. The information on labels and/or product data sheets must be in the languages in which the product is marketed.
- † A complete recipe in line with the requirement. Nordic Swan Ecolabelling’s calculation sheet can be used and can be obtained from Nordic Ecolabelling’s websites.
- † Safety data sheets for each raw material in line with prevailing legislation in the country of application, e.g., Annex II to REACH (Regulation 1907/2006/E2EC).

Background to requirement O1 Description of the product

A description of the product (e.g., label) and its areas of use is required to assess whether the product falls within the product group definition. Since the criteria for cleaning products cover several product categories and products intended for different usage, it is important for Nordic Ecolabelling to receive product information concerning area of use, dilution, and market (professional/consumer).

Dosing of the cleaning product is an important parameter for preventing over-dosing. Over-dosing has a major impact in the form of unnecessary quantities of chemicals being

discharged into the environment. All phases of the life cycle are affected by over-dosing, since it causes unnecessary raw material production, manufacturing and transport.

Under the requirement, users must be given clear instructions about how to use the product. Products that require dilution before use must have a label and/or product data sheet explaining how to dilute the product. Data sheets for professional products must state which dosing equipment is recommended.

Nordic Ecolabelling needs to know the complete formulation, with all ingoing substances and known impurities. This is necessary to check the individual requirements and make the necessary calculations. Foil that is not removed before use of the product, and that is water soluble is considered as part of the formulation/recipe.

The safety data sheets must be updated in line with European legislation, which at the time of writing the criteria means compliance with Appendix II of REACH (Regulation (EC) No 1907/2006 as amended by Regulation (EU) 215/830).

O2 Classification of the cleaning product

The cleaning product must not be classified with any of the hazards from CLP Regulation (EC) No 1272/2008 listed below.

Table 3 Excluded hazards for the cleaning product

Hazard Class	Hazard Category	Hazard Statement Code
Hazardous to the aquatic environment	Aquatic Acute 1	H400
	Aquatic Chronic 1	H410
	Aquatic Chronic 2	H411
	Aquatic Chronic 3	H412
	Aquatic Chronic 4	H413
Hazardous to the ozone layer	Ozone	H420
Acute toxicity *	Acute Tox. 1 or 2	H300
	Acute Tox. 1 or 2	H310
	Acute Tox. 1 or 2	H330
	Acute Tox. 3	H301
	Acute Tox. 3	H311
	Acute Tox. 3	H331
	Acute Tox. 4	H302 *
	Acute Tox. 4	H312 *
	Acute Tox. 4	H332 *
Specific target organ toxicity: single or repeated exposure	STOT SE 1	H370
	STOT SE 2	H371
	STOT SE 3	H335 **, H336 **
	STOT RE 1	H372
	STOT RE 2	H373
Skin corrosion ***	Skin Corr. 1A, 1B or 1C	H314 ***
Aspiration hazard	Asp. Tox. 1	H304
Respiratory or skin sensitisation	Resp. Sens. 1, 1A or 1B	H334
	Skin Sens. 1, 1A or 1B	H317

		EUH208 "Contains (name of sensitising substance). May cause an allergic reaction."
Carcinogenicity****	Carc. 1A or 1B Carc. 2	H350 **** H351 ****
Germ cell mutagenicity****	Muta. 1A or 1B Muta. 2	H340 **** H341 ****
Reproductive toxicity****	Repr. 1A or 1B Repr. 2 Lact.	H360 **** H361 **** H362 ****
Endocrine disruption for human health	ED HH 1 ED HH 2	EUH380 EUH381
Endocrine disruption for the environment	ED ENV 1 ED ENV 2	EUH430 EUH431
Persistent, bioaccumulative and toxic properties	PBT	EUH440
Very persistent, very bioaccumulative properties	vPvB	EUH441
Persistent, Mobile and Toxic properties	PMT	EUH450
Very Persistent, Very Mobile properties	vPvM	EUH451

* *Exemptions for Acute toxicity, Category 4 (H302, H312, H332): Professional products if the packaging is designed so that the user does not come in contact with the product*

** *Specific target organ toxicity, single exposure, category 3 (STOT SE 3, H335, H336) applies only to foam/spray products*

*** *Exemptions for Skin corrosion (Skin corr. 1A, 1B, 1C; H314):*

- Professional products where classification is due to pH.
- WC-products for consumers where the classification is due to pH.

**** *Includes all classification variants (e.g., H350 also covers H350i).*

- † A safety data sheet (SDS) prepared in accordance prevailing European legislation (Annex II of REACH Regulation (EC) No 1907/2006) for the cleaning product.
- † Appendix 1 or equivalent, completed and signed.
- † Description of the packaging design showing that the user is not in contact with the product for the professional products for which an exemption is made from the requirement of classification as H332, H312 and/or H302. Documentation in the form of a technical description and user instructions showing how the user avoids contact with the product.
- † Documentation confirming that the product (professional products and WC products for consumers) has been classified as corrosive due to its pH value if an exemption is made for H314.

Background to requirement O2 Classification of the cleaning product

Nordic Ecolabelling aims to minimize the health and environmental impact of Nordic Swan Ecolabel products. Therefore, cleaning products with the following classifications cannot be certified: hazardous to the aquatic environment, hazardous to the ozone layer, acutely toxic, causes damage to organs, causes skin corrosion, aspiration toxic, sensitising, carcinogenic,

mutagenic, toxic for reproduction, endocrine disruptive, and persistent, bioaccumulative/mobile and toxic.

The updated CLP classifications now include endocrine disruptors, PBT/vPvB and PMT/vPvM substances, covering environmental toxicity, persistence, mobility and bioaccumulation. Including PMT and vPvM substances is essential due to their persistence, mobility and potential impact on water quality. The new rules entered into force 20 April 2023. From this date, the Member States may propose harmonized classification and labelling (CLH) with the new hazard classes and manufacturers, importers, downstream users and distributors may also self-classify their substances and mixtures accordingly.

There are transitional periods following the Delegated Regulation's into force. During these periods classification under the new hazard classes is voluntary. Manufacturers, importers, downstream users and distributors are not yet required to classify their substances or mixtures according to the new hazard classes. During these periods, the new hazard classes can be applied on a voluntary basis. However, any product classified according to these new hazard classes will be excluded under these criteria.

This is a standard requirement, based on the precautionary principle and is only partially tailored to the specific product group.

The exemption for professional products regarding classification as H332, H312 and/or H302 (Acute Tox. 4) is included for products where the manufacturer can show that the packaging is designed to prevent the user from coming into contact with the product. In this case, a technical description and user instructions showing how the user avoids contact with the product must be present.

A classification as corrosive, such as Skin Corr 1 with H314, is also exempted for professional products and WC products, where the classification is due to pH (cf. CLP Annex I: 3.2.3.1.2). This exemption has been made to allow the ecolabelling of highly concentrated products and products intended for areas of use where extreme pH values are required to achieve good performance. Strongly acidic products, for example, may be needed to clean sanitary installations in the professional market, which usually uses more concentrated products that are then diluted automatically.

For criteria generation 7, an exemption has been removed for wash polish/wash-and-wax care products containing methylisothiazolinone, causing the product to be labelled with the hazard phrase EUH208 "Contains (name of sensitising substance). May cause an allergic reaction." Since there has been time for manufacturers to change to other less hazardous alternatives, this exemption was removed. Isothiazolinones are no longer allowed in Nordic Ecolabelled cleaning products.

The classification of the cleaning product requirement applies to mix-it-yourself RTU products in concentrated form, since refills are sold as concentrates and so the classification regulation (CLP) relates to the concentrated form. This is because consumers can be exposed to the product in concentrated form when diluting the concentrated product. Therefore, these products are no longer allowed to be labelled with hazard phrase EUH208.

The specific requirements for foam/spray products (i.e., ban of STOT SE 3) only apply to foam/spray products in an in-use solution.

The requirement has been updated since the previous generation to take account of current legislation and refers to the CLP Regulation 1272/2008.

The requirement also relates to the industry's self-classification.

5.2 Raw material sourcing

The requirements for raw material sourcing include two requirements:

- Supply Chain Policy and Code of Conduct
- Certified raw materials from oil palms

O3 Supply Chain Policy and Code of Conduct

The licence holder must have a) supply chain policy and b) a Code of Conduct for responsible sourcing of minerals and renewable raw materials* used in the cleaning product. The supply chain policy and code of conduct must be both public and communicated to the supply chain.

Licence holders with fewer than 250 employees are exempt.

a) The supply chain policy must include the following:

- A policy statement committing the licence holder to respect human rights and the environment within its operations and supply chain; this includes a commitment to support suppliers' compliance with the supplier code of conduct by engaging in responsible purchasing practices.
- Commitment to comply with all applicable local, national- and international environmental laws and regulations, as well as all applicable health and safety regulations.
- A description for governance processes in place for Due Diligence; this includes routines for assessing biodiversity and deforestation risk along the whole supply chain.

b) The supplier Code of Conduct must inform all suppliers of what is expected of them with respect to the Licensee's supply chain policy regarding human rights and protecting the environment.

**Renewable raw materials compose of biomass and that can be continually replenished for example wood, crops, marine products, organic waste or be recycled raw materials*

↑ Submit supply chain policy according to the requirement or reference to info on webpage.

↑ Submit supplier Code of Conduct according to the requirement or reference to info on webpage.

↑ Submit information on how the supply chain policy and supplier Code of Conduct are public and communicated to the supply chain.

Background to requirement O3 Supply Chain Policy and Code of Conduct

Supply chain management is the handling of the entire process of turning raw materials into a final product. Supply chain policy reflects the companies' requirements and responsibilities for sourcing raw materials along the whole supply chain. This applies both to renewable raw materials and minerals. The policy must commit the company to respect human rights and

the environment and comply with local and international laws and regulations (deforestation risks (EUDR⁴), environmental, health and safety) along the whole supply chain. The policy must also describe the governance processes in place for Due Diligence especially for assessing biodiversity and deforestation risk in the supply chain.

The licensee must in addition also present its supplier Code of Conduct that defines and describes what is expected and required of suppliers in the supply chain. The supply chain policy and code of conduct must be both public and communicated to the supply chain.

The requirement for supply chain management reflects new EU legislation, e.g., due diligence directive (draft proposal) and new forest deforestation legislation, and how commodity companies work today. However, recognizing that the additional workload can affect small-and-medium enterprises disproportionately, Nordic Ecolabelling license applicants and license holders with fewer than 250 employees are exempt from the requirement in this criteria generation.

O4 Certified raw materials from oil palms

The requirement does not apply to substances derived from palm oil/palm kernel oil in raw materials where the substances amount to < 1% in the cleaning product.

If raw materials from palm oil are used in the product, the palm oil/palm kernel oil must be RSPO certified. This also includes by-products, residues, and waste fractions from palm oil industries, such as palm fatty acid distillate and palm effluent sludge. Traceability must be ensured by Mass Balance, Segregated, or Identity Preserved.

Book and Claim are not accepted.

- † Appendix 2 or equivalent declaration completed and signed by all relevant raw material manufacturers/suppliers.
- † A valid RSPO Supply chain certificate from all relevant raw material manufacturers/suppliers or a valid RSPO Supply chain certificate from the manufacturer of the cleaning product.
- 🔍 By request, the manufacturer of the cleaning product must present invoices/delivery notes/order confirmation that the palm oil purchased is RPSO certified and information about traceability system (Mass Balance, Segregated or Identity Preserved accepted).
- 🔍 By request, the manufacturer of the cleaning product must, if they are RSPO Chain of Custody certified, present a third party-controlled balance sheet showing RSPO certified raw materials being accounted/recorded to the cleaning product(s).

Background to requirement O4 Certified raw materials from oil palms

Palm oil plantations are often established at the expense of tropical rainforest and other protected areas. This is one of the biggest threats to biodiversity in Southeast Asia, leading to the loss of valuable species, habitats, ecosystems, and landscapes. Hence, palm oil is part of EU's Regulation on deforestation-free products.

Palm oil is widely used as an ingredient or feedstock for chemical substances and therefore difficult to exclude in NSE products. Therefore, if palm oil is used in the product the palm

⁴ https://green-forum.ec.europa.eu/nature-and-biodiversity/deforestation-regulation-implementation_en

oil/palm kernel oil, including by-products or residues, must be RSPO certified.⁵ Traceability must be ensured by Mass Balance, Segregated, or Identity Preserved. Book and claim are not accepted as there is no link between the claim for certified palm oil and the product itself.

The manufacturer or supplier of palm oil must present a valid RSPO Supply chain certificate (RSPO SCC certificate). The certificate/RSPO schemes ensures and controls the flow of certified claims throughout the supply chain. The manufacturer of the Nordic Swan Ecolabelled product must at request present invoices/delivery notes/order confirmation that the palm oil purchased is RSPO certified. The type of traceability (Mass Balance, Segregated, or Identity Preserved) must be apparent from the documentation.

In cases where the Manufacturer of the Nordic Swan Ecolabelled product is RSPO Chain of Custody certified, the applicant must at request present a third party-controlled balance sheet showing RSPO certified raw materials being accounted/recorded to the Nordic Swan Ecolabelled product(s). This to ensure that RPSO raw materials (credits) are used in the Nordic Swan Ecolabelled product(s).

5.3 Requirements for ingoing substances

The requirements for ingoing substances include seven requirements:

- Classification of ingoing substances
- Excluded substances
- Microplastics
- Surfactants
- Fragrances
- Preservatives
- Micro-organisms

The requirements apply to all ingoing substances in the Nordic Swan Ecolabelled product. Impurities are not regarded as ingoing substances and are exempt from the requirements.

Ingoing substances and impurities are defined in the [Definitions table](#).

Foil that is not removed before use of the product is considered as part of the formulation/recipe.

O5 Classification of ingoing substances

Ingoing substances must not be classified with the hazards from CLP Regulation (EC) No 1272/2008 listed below.

Table 4 Excluded hazards for the ingoing substances

Hazard Class	Hazard Category	Hazard Statement Code
Hazardous to the ozone layer	Ozone	H420
Specific target organ toxicity: Repeated exposure	STOT RE 1	H372

⁵ <https://rspo.org/as-an-organisation/our-standards/>

Respiratory or skin sensitisation *	Resp. Sens. 1, 1A or 1B Skin Sens. 1, 1A or 1B	H334 * H317 *
Carcinogenicity **	Carc. 1A or 1B Carc. 2	H350 ** H351 **, ***
Germ cell mutagenicity **	Muta. 1A or 1B Muta. 2	H340 ** H341 **
Reproductive toxicity **	Repr. 1A or 1B Repr. 2 Lact.	H360 ** H361 ** H362 **
Endocrine disruption for human health****	ED HH 1 ED HH 2	EUH380 **** EUH381 ****
Endocrine disruption for the environment****	ED ENV 1 ED ENV 2	EUH430 **** EUH431 ****
Persistent, Bioaccumulative and Toxic properties****	PBT	EUH440 ****
Very Persistent, Very Bioaccumulative properties****	vPvB	EUH441 ****
Persistent, Mobile and Toxic properties	PMT	EUH450
Very Persistent, Very Mobile properties	vPvM	EUH451

* *Exemptions for respiratory or skin sensitization (H334 and H317):*

- Enzymes (including stabilisers and preservatives in the enzyme raw material) can be included if they are in liquid form or granulate capsules.
- Fragrance can be included in some types of the final product, see requirement O9 on fragrances.
- Sensitising preservatives, but see also requirement O6 Excluded substances and O10 Preservatives.

** *CMR classifications include all classification variants (e.g. H350 also covers H350i).*

*** *Exemption for carcinogenicity 2 (H351): Complexing agents of the MGDA and GLDA type may contain NTA impurities in the raw material in concentrations of less than 0.2% by weight of the MGDA/GLDA active content, if the concentration of NTA in the cleaning product is below 0.1% by weight.*

**** See also O6 Excluded substances for additional requirements for potential or identified endocrine disruptors (EUH 380, 381, 430, 431) and PBT/vPvB substances (EUH 440, 441).

† A safety data sheet (SDS) for all raw materials, prepared in accordance with Annex II of REACH Regulation (EC) No 1907/2006.

† Appendix 1 and Appendix 2 or equivalent, completed and signed.

Background to requirement O5 Classification of ingoing substances

Nordic Ecolabelling strives to ensure that the health and environmental impact of the products are as low as possible. The requirements therefore make it clear that ingoing substances with the following classifications cannot be used in the Nordic Swan ecolabelled product: hazardous to the ozone layer, causes damage to organs, sensitising, carcinogenic, mutagenic, toxic for reproduction, endocrine disruptors, and persistent, bioaccumulative/mobile and toxic.

The new CLP classifications for endocrine disruptors, PBT/vPvB and PMT/vPvM (environmental toxicity, persistency, mobility and bioaccumulation) are included. The inclusion of PMT and vPvM substances is crucial due to their persistence, mobility and potential impact on water quality. The new rules are in force as of 20 April 2023. From this day on, the Member States can make proposals for harmonized classification and labelling (CLH) with the new hazard classes and manufacturers, importers, downstream users and distributors can self-classify their substances and mixtures accordingly.

There are transitional periods from the entry into force of the Delegated Regulation, during which manufacturers, importers, downstream users and distributors are not yet required to classify their substances or mixtures according to the new hazard classes. During these periods, the new hazard classes can be applied on a voluntary basis. However, if an ingoing substance is classified according to these new hazard classes and used in a product, it will be excluded under these criteria.

This is a standard requirement, that is set by the precautionary principle and adapted to the product group. The requirement is intended to exclude problematic substances that might be added to products in the future, even if they are not necessarily found in products on the market today.

Complexing agents GLDA and MGDA contain small quantities of NTA (CAS 139-13-9, classified as Carc2 H351) as residues from raw material production (as attested in various safety data sheets for the raw materials). Nordic Ecolabelling's review of licensed products shows that there is a need to use these complexing agents in cleaning products. NTA as an impurity in complexing agents is therefore exempted from the requirement, but subject to the limitation that the concentration of NTA in the raw materials must be below 0.2% by weight of the MGDA/GLDA active content in the raw material (e.g., for raw materials with 30% MGDA active content, maximum $0.2\% \cdot 30\% = 0.06\%$ NTA is permitted in the raw material), and that the concentration of NTA in the end-product must be below 0.1% by weight.

The substances that are most often classified as sensitising in cleaning products are fragrance substances, preservatives, and enzymes. Nordic Ecolabelling restricts these substances via other requirements: O6 Excluded substances, O9 Fragrances, O10 Preservatives.

Enzymes

Enzymes are exempt from the requirement prohibiting sensitising substances, since it is difficult to find enzymes that are not classified as sensitising and the positive environmental effects of enzymes are substantial. However, only enzymes in liquid form or in the form of granules are permitted to reduce the risk of dust-forming enzymes in the manufacture of cleaning products. The exemption also applies to stabilisers and preservatives in the enzyme raw material. This is because enzymes are proteins and therefore readily biodegradable. Proteases are also unstable due to self-hydrolysis. Preservatives and stabilisers are therefore needed to keep enzymes stable until they are used.

Fragrances

Fragrances have a separate requirement regarding allergenic content. Excluding all allergens from fragrances makes it almost impossible to produce a fragrance. Nordic Ecolabelling has, however, chosen to exclude fragrances from professional foam/spray products. Allergenic fragrances are also more restricted in foam/spray for consumers than in

concentrated products, since the exposure described above is different for foam/sprays than for concentrated products. See requirement O9.

Preservatives

Preservatives are needed to ensure the quality and stability of the product. Restrictions on sensitizing preservatives are found in requirements O6 Excluded substances and O10 Preservatives.

O6 Excluded substances

The following substances or substance groups must not be present as ingoing substances in the cleaning product.

- Alkylphenols (AP) (e.g. butylated hydroxy anisole (BHA, CAS No. 25013-16-5), butylated hydroxytoluene (BHT, CAS No. 128-37-0), alkylphenol ethoxylates (APEOs) and other alkylphenol derivatives (APD))
- Amphoacetates (EC No. 271-792-5, 271-794-6, 931-291-0, 938-645-3, 942-589-5, 943-154-2, 944-415-3, 946-565-5, 947-998-2)
- Aromatic solvents and carriers, incl. chlorotoluenes, chlorophenols and chlorobenzenes

Solvents as defined in Directive 1999/13/EC: Organic substances with a vapour pressure of at least 0.01 kPa at 20 °C

- Benzalkonium chloride (CAS No. 8001-54-5)
- Bisphenols and bisphenol derivatives, defined as 34 bisphenols identified by ECHA⁶ for further EU regulatory risk management due to known or potential endocrine disruption or reproductive toxicity.
- Boric acid, borates, and perborates
- Endocrine disruptors, potential or identified, listed in "Endocrine Disruptor Lists" List I, II or III

Note: Substances moved to "Substances no longer on list" and not present on Lists I-III, are no longer excluded, except for those on sublist II where concern remains. Nordic Ecolabelling will assess these on a case-by-case basis.

- Ethylenediamine tetraacetate (EDTA, CAS No. 60-00-4) and its salts and Diethylenetriamine pentaacetate (DTPA, CAS No. 67-43-6) and its salts
- Halogenated organic compounds
- Isothiazolinones (e.g. methylisothiazolinone (MIT), CAS No. 2682-20-4, methylchlorisothiazolinone (CMIT), C(M)IT/MIT (3:1), CAS No. 55965-84-9, CAS No. 26172-55-4, benzisothiazolinone (BIT), CAS No. 2634-33-5,

⁶ EC/List No. 201-245-8 (BPA), 201-025-1 (BPB), 401-720-1 (4,4'-Isobutylethylidenediphenol), 216-036-7 (BPAF) and its 8 salts (278-305-5; 425-060-9; 443-330-4; 468-740-0; 469-080-6; 479-100-5; 943-265-6; 947-368-7), 201-250-5 (BPS), 201-240-0 (BPC), 204-279-1 (TBMD), 201-618-5 (6,6'-di-tert-butyl-4,4'-butylidenedi-m-cresol), 242-895-2, 248-607-1, 405-520-5 (D8), 217-121-1 (DAB), 227-033-5 (TMBPA), 210-658-2 (BPF), 411-570-9, 277-962-5 (contains BPS), 500-086-4 (contains BPA), 500-263-6 (contains BPA), 500-607-5 (contains BPA), 701-362-9, 904-653-0 (contains BPA), 908-912-9 (contains BPF), 926-571-4 (contains BPA), 931-252-8 (contains BPA), 941-992-3 (contains BPS), 943-503-9 (contains BPA).

[1] Assessment of regulatory needs: Bisphenols. ECHA – 16 December 2021: Section 2.1: Bisphenols for which further EU RRM is proposed <https://echa.europa.eu/documents/10162/5e60f2fe-12d0-7f6b-5868-f199cfd7f984>

octylisothiazolinone (OIT), CAS No. 26530-20-1 and dichlorooctylisothiazolinone (DCOIT), CAS No. 64359-81-5)

- Linear alkylbenzene sulphonates (LAS)
- Methylidibromo glutaronitrile (MG), CAS no. 35691-65-7
- Nanomaterials/-particles

Nanomaterials/-particles are defined according to the EU Commission Recommendation on the Definition of Nanomaterial (2022/C 229/01):⁷

'Nanomaterial' means a natural, incidental or manufactured material consisting of solid particles that are present, either on their own or as identifiable constituent particles in aggregates or agglomerates, and where 50 % or more of these particles in the number-based size distribution fulfil at least one of the following conditions:

(a) one or more external dimensions of the particle are in the size range 1 nm to 100 nm;
(b) the particle has an elongated shape, such as a rod, fibre or tube, where two external dimensions are smaller than 1 nm and the other dimension is larger than 100 nm;
(c) the particle has a plate-like shape, where one external dimension is smaller than 1 nm and the other dimensions are larger than 100 nm.

- Nitro musks and polycyclic musk compounds
- NTA (nitrilo triacetic acid, CAS-no. 139-13-9), and its salts

Exemptions: Complexing agents of the MGDA and GLDA type may contain NTA impurities in the raw material in concentrations of less than 0.2% by weight of the MGDA/GLDA active content, if the concentration of NTA in the cleaning product is below 0.1% by weight.

- Organic chlorine compounds, hypochlorites and hypochlorous acid
- PBT and vPvB as defined in REACH Annex XIII, including those under ECHA PBT assessment <https://echa.europa.eu/da/pbt>
- Per- and polyfluoroalkyl substances (PFAS)

PFAS is defined as any substance that contains at least one fully fluorinated methyl (CF₃-) or methylene (-CF₂-) carbon atom (without any H/Cl/Br/I attached to it).

- Phosphate, phosphonate, phosphonic acid and phosphoric acid
- Phthalates (*Esters of 1,2-benzenedicarboxylic acid (orthophthalic acid, CAS No. 88-99-3)*)
- Quaternary ammonium compounds that are not readily aerobic biodegradable such as DTDMAC (CAS No. 61789-80-8), DSDMAC (CAS No. 107-64-2), DHTDMAC (CAS No. 61789-72-8) and DADMAC (CAS No. 7398-69-8).

Aerobic biodegradable according to OECD test method 301 (A-F) or 310 or equivalent methods evaluated by an independent body and controlled by Nordic Ecolabelling.

- Siloxanes
- Silver, colloidal silver and nanosilver
- Substances on the REACH Candidate list of SVHC substances <https://www.echa.europa.eu/candidate-list-table>
- Volatile organic compounds (VOC)

⁷ [https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32022H0614\(01\)&from=EN](https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32022H0614(01)&from=EN)

Volatile organic compounds are defined in accordance with the European Commission's directive 1999/13/EC on the limitation of emissions of volatile organic compounds with steam pressure > 0.01 kPa at 20°C.

Exemption for acetic acid, isopropanol, ethanol (including denaturing agents), and solvents in fragrances.

† Appendix 1 or equivalent, completed and signed.

† Appendix 2 or equivalent, completed and signed by all raw material manufacturers/suppliers.

Background to requirement O6 Excluded substances

Certain problematic substances and substance groups are difficult to exclude through general chemical requirements. To address this, Nordic Ecolabelling has compiled a list of substances that must not be present as ingoing substances in the ecolabelled cleaning product.

The purpose of this list is to prohibit substances that may not be excluded by other requirements but are associated with environmental and health hazards. Some substances are included for clarity, even if they are already prohibited under other requirements.

This is a standard requirement that is set by the precautionary principle and adapted to the product group. The requirement may exclude some substances that are not necessarily found in cleaning products on the market today, so that we exclude these substances if they are added to cleaning products in the future.

Alkylphenols (AP) (e.g. butylated hydroxy anisole (BHA, CAS No. 25013-16-5), butylated hydroxytoluene (BHT, CAS No. 128-37-0), alkylphenol ethoxylates (APEO) and other alkylphenol derivatives (APD))

The non-ionic APEO group of surfactants are produced in large volumes and their uses lead to widespread release to the aquatic environment. APEOs are highly toxic to aquatic organisms and degrade to more environmentally persistent compounds (APDs). Ethoxylated nonylphenol and several other alkylphenols are included in the Candidate List due to endocrine disrupting properties. Nordic Ecolabelling also bans APEO/APD compounds through the biodegradability requirement in O8 Surfactants.

Amphoacetates (EC No. 271-792-5, 271-794-6, 931-291-0, 938-645-3, 942-589-5, 943-154-2, 944-415-3, 946-565-5, 947-998-2)

The group consists of 9 amphoacetates, that are used as surfactants in consumer products like detergents and cosmetic products. Based on the potential for widespread use and available information on potential reproductive toxicity (Repro. 1B), these amphoacetates were identified in need for further regulatory risk management in EU.⁸

Aromatic solvents and carriers, incl. chlorotoluenes, chlorophenols and chlorobenzenes*

Aromatic solvents, including substances like benzene, toluene, xylenes, chlorobenzenes, chlorotoluenes, and chlorophenols, are used for their strong solvency but pose serious health and environmental risks. They can cause neurological, reproductive, and organ

⁸ ECHA group assessment of Amphoacetate and amphopropionate derivatives of N-hydroxyethylimidazolines: <https://echa.europa.eu/documents/10162/bfd90551-19c6-41ab-b608-a00147d7db8a>

toxicity, and some are carcinogenic. Many are persistent in the environment, toxic to aquatic life, and contribute to air pollution.

Benzalkonium chloride (CAS No. 8001-54-5)

Benzalkonium chlorides (BACs) is part of a group of chemicals with wide applications due to their antimicrobial properties against bacteria, fungi and viruses. There is a risk that frequent and widespread use of BACs in commercial products can generate selective environments for microbes and contribute to resistance to antibiotics. Furthermore, there is a risk to consumer exposure due to their toxicity and allergenic properties.

Bisphenols and bisphenol derivatives

Several bisphenols with the general bisphenol structure and 'bisphenol derivatives' which have constituents with structural properties common to bisphenols are now prohibited. Based on the potential for widespread use and available information on potential endocrine disruptors, reproductive toxicity and PBT/vPvB properties, 34 substances were identified in need for further regulatory risk management in EU.⁹

Boric acid, borates and perborates

Boric acid, borates and perborates have many uses, such as stain removal, oxidizing and bleaching agents and are often used to produce laundry detergents and can be used in industrial cleaners. They are classified as toxic to reproduction and poses a risk to consumers.

Endocrine disruptors, potential or identified, according to any of the EU member state initiative "Endocrine Disruptor Lists" List I, II, or III

Endocrine disruptors (EDs) are chemicals that alter the functioning of the endocrine (hormone) system and consequently cause adverse health effects. The hormone system regulates many vital processes in living organisms and when normal signalling is disturbed, adverse effects can result including diseases and effects on reproduction and development.

The term potential EDs is used for chemicals with properties that make them suspected to be EDs. Substances listed under List II are excluded because they are under evaluation in an EU legislative process due to explicit concerns about possible endocrine-disrupting properties. Excluding them limits exposure while the evaluation is ongoing.

Substances moved to "Substances no longer on list" and not present on Lists I-III, are not excluded, except for those on sublist II where concern remains. Nordic Ecolabelling will assess these on a case-by-case basis.

Ethylenediamine tetraacetate (EDTA, CAS No. 60-00-4) and its salts and Diethylenetriamine pentaacetate (DTPA, CAS No. 67-43-6) and its salts

Ethylenediaminetetraacetic acid (EDTA), diethylenetriamine pentaacetate (DTPA) and their salts are not readily degradable. Furthermore, DTPA is classified toxic for reproduction and may potentially pose a risk to consumers. For EDTA, the EU's risk assessment states that under the conditions at municipal water treatment plants EDTA is either not broken down or only breaks down to a slight degree. To-date in Europe, EDTA has been replaced in virtually

⁹ Assessment of regulatory needs: Bisphenols. ECHA – 16 December 2021: Section 2.1: Bisphenols for which further EU RRM is proposed <https://echa.europa.eu/documents/10162/5e60f2fe-12d0-7f6b-5868-f199cfd7f984>

all consumer products by readily biodegradable alternatives such as MGDA (methylglycine diacetic acid) and GLDA (glutamic acid diacetic acid).

Halogenated organic compounds

Halogenated organic compounds, including short-chain chlorinated paraffins (C10-C13), medium-chain chlorinated paraffins (C14-C17), chlorophenols and dimethyl fumarate derivatives, is a large group of substances that are harmful to both the environment and human health. They are often carcinogenic, highly toxic to aquatic organisms and very persistent to degradation.

Isothiazolinones (e.g. methylisothiazolinone (MIT), CAS No. 2682-20-4, methylchloroisothiazolinone (CMIT), C(M)IT/MIT (3:1), CAS No. 55965-84-9, CAS No. 26172-55-4, benzisothiazolinone (BIT), CAS No. 2634-33-5, octylisothiazolinone (OIT), CAS No. 26530-20-1 and dichlorooctylisothiazolinone (DCOIT), CAS No. 64359-81-5)

MIT and CMIT have caused widespread outbreaks of allergy contact dermatitis worldwide. In Europe, allergy rates to MIT/CMIT peaked in 2013-2014, affecting over 7% of individuals who underwent patch testing, while in North America prevalence exceeded 10% by 2017-2018¹⁰. Other isothiazolinones could pose similar risks if used extensively. These substances are potent skin sensitizers, and for some, even trace concentrations in the ppm range can trigger allergic reactions. Excluding the entire group prevents regrettable substitution and reduces sensitization risk.

Linear alkylbenzene sulphonates (LAS)
LAS is an anionic surfactant. In parts of Europe where LAS is commonly used, LAS is found in significant concentrations in wastewater and sewage sludge. SCHEER (2020)¹⁰ reports "negligible anaerobic degradation in freshwater and degradation only under certain conditions in marine waters may lead to accumulation of LAS and thus may present an issue of relevant environmental concern." Hazardous property classification for LAS reported to ECHA are Aquatic Chronic 3, Acute Tox 4, Skin irrit. 2, and Eye Dam. 1. To avoid impacting soil and aquatic environments, including estuarine and coastal environments, as a result of wastewater release and sludge application on fields, LAS remains excluded from use. . Nordic Ecolabelling also bans LAS through the anaerobic biodegradability requirement in O8 Surfactants.

Methyldibromo glutaronitrile (MG, CAS No. 35691-65-7)

Methyldibromo glutaronitrile (MDBGN) has applications within cosmetics and industrial products and is a bromine-containing preservative. MDBGN has been shown to be a sensitizer and cause for allergic contact dermatitis and is therefore banned.

Nanomaterials/-particles

Nanomaterials¹¹ are a diverse group of materials under the size of 100 nm. For household and professional chemical products, examples of nanomaterials/nanoparticles can include ZnO, TiO₂, SiO₂, and Ag. Due to their small size and large surface area nanoparticles are often more reactive and may have other properties compared to larger particles of the same material. Further, different sizes, shapes, surface modifications and coatings can also change their physical and chemical properties. Nanoparticles can cross biological

¹⁰ https://health.ec.europa.eu/latest-updates/scheer-final-opinion-potential-anaerobic-biodegradability-marine-and-freshwater-linear-alkylbenzene-2020-06-22_en

¹¹ Nordic Swan Ecolabel webtext: <https://www.nordic-swan-ecolabel.org/nordic-ecolabelling/environmental-aspects/chemicals-nano-and-microplastics/nanomaterials/>

membranes and thus be taken up by cells and organs. One of the main concerns are linked to free nanoparticles, as some of these – when inhaled – can reach deep into the lungs, where the uptake into the blood is more likely.

There is concern among public authorities, scientists, environmental organisations, and others about the insufficient knowledge regarding the potential detrimental effects on health and the environment.^{12, 13, 14} Nordic Ecolabelling take these concerns seriously and apply the precautionary principle to exclude potentially hazardous nanomaterials from products.

Nanotechnology, which also includes nanoparticles, is used in many product areas, including those for which Nordic Ecolabelling has criteria. The greatest cause for concern is the use of nanoparticles, which can be released and thereby affect health and the environment. There is concern among public authorities, environmental organisations and others about the lack of knowledge regarding the potential detrimental effects on health and the environment.

Nitro musks and polycyclic musk compounds

Nitro musks and polycyclic musk generally have undesirable properties regarding both health and the environment. Some such compounds are already excluded from use via the requirement concerning CMR substances.

NTA (nitrilo triacetic acid), CAS No. 139-13-9, and its salts

NTA is a synthetic complexing agent and does not naturally occur in the environment. It is present in the environment as a result of its release in sewage from processing. NTA is considered to be persistent and is suspected carcinogenic. Complexing agents that replace NTA (GLDA and MGDA) contain small quantities of NTA as residues from raw material production. To encourage a transition to MGDA and GLDA, these raw materials may contain NTA impurities in concentrations of less than 0.2% by weight of the MGDA/GLDA active content (e.g., for raw materials with 30% MGDA active content, maximum $0.2\% \cdot 30\% = 0.06\%$ NTA is permitted in the raw material), if the concentration of NTA in the cleaning product is below 0.1% by weight.

Organic chlorine compounds, hypochlorite and hypochlorous acid

Organic chlorine compounds, hypochlorites and hypochlorous acid are sometimes used as disinfecting and antibacterial substances and as bleaching agents. Organic chlorine compounds can be, or lead to the formation of, toxic and bioaccumulative substances that are difficult to break down. Chlorine-based bleaching agents generally have undesirable health and environmental properties. Hypochlorous acid is not classified, and hypochlorites have the classification Acute toxicity (H400) and thus, they are not covered by the general requirement concerning environmentally hazardous substances. However, both pose an environmental risk due to the possibility of organic chlorine compounds forming. Mixing these ingredients with an acid (e.g., acidic cleaning products) leads to formation of toxic

¹² UNEP (2017) Frontiers 2017 Emerging Issues of Environmental Concern. United Nations Environment Programme, Nairobi. https://wedocs.unep.org/bitstream/handle/20.500.11822/22255/Frontiers_2017_EN.pdf

¹³ Parliamentary Assembly of the Council of Europe (2013) Nanotechnology: balancing benefits and risks to public health and the environment. http://assembly.coe.int/CommitteeDocs/2013/Asocdocinf03_2013.pdf

¹⁴ SCCS (Scientific Committee on Consumer Safety) (2019) Guidance on the Safety Assessment of Nanomaterials in Cosmetics. SCCS/1611/19. https://ec.europa.eu/health/sites/health/files/scientific_committees/consumer_safety/docs/sccs_o_233.pdf

chlorine vapour, which is an additional concern due to the ingredients' use in consumer cleaning products.¹⁵

PBT and vPvB substances in accordance with REACH Annex XIII, including those under ECHA PBT assessment <https://echa.europa.eu/da/pbt>

PBT and vPvB are abbreviations for substances that are persistent, bioaccumulative and toxic, and very persistent and very bioaccumulative, respectively, in accordance with REACH Annex XIII. This means that they are not biodegradable and that they accumulate in living organisms. Based on these adverse characteristics they pose a threat to the environment and human health. They are prohibited in all Nordic Swan Ecolabel products.

Nordic Ecolabelling excludes substances under ECHA PBT assessment since these substances are suspected of PBT properties. Therefore, we use the precautionary principle in excluding them to limit their release into the environment while they are under assessment.

Per- and polyfluoroalkyl substances (PFAS)

Per- and polyfluoroalkyl substances (PFAS) are used in many types of products due to their water and dirt repellent properties. These compounds constitute a group of substances that have highly problematic intrinsic hazardous properties. They are extremely persistent and accumulate in the body. They are spread all over the globe, from the large oceans to the Arctic, and are found in e.g. wild birds and fish and their eggs. Also, shorter chain compounds (2–6 carbon atoms) have been discovered in nature. The substances in this group are suspected to be endocrine disruptors, carcinogenic, and to have a negative impact on the human immune system.

Phosphate, phosphonate, phosphonic acid and phosphoric acid

Plants, animals, and people all depend on phosphorus to grow. Phosphorus (a constituent element of phosphate, phosphonate, phosphonic acid and phosphoric acid) is, amongst other things, an essential ingredient in artificial fertilizer, which in turn is fundamental in making it possible to feed over 8 billion people on the planet. Phosphorus is a non-renewable resource, facing ever-increasing demand, that can only be extracted from phosphorite, and this is only found in a few countries, several of which have unstable regimes. Since there are alternatives available, Nordic Ecolabelling prohibit the use of phosphate, phosphonate, phosphonic acid and phosphoric acid.

There is no longer any exemption for wash polish/wax-and-wash products since it was no longer deemed necessary.

¹⁵ LOUS, 2009: List of adverse substances 2009. Information from the Danish Environmental Protection Agency no. 3 2010 <http://www2.mst.dk/udgiv/publikationer/2010/978-87-92617-15-6/pdf/978-87-92617-16-3.pdf>

Phthalates (Esters of 1,2-benzenedicarboxylic acid (orthophthalic acid, CAS No. 88-99-3))

Phthalates are defined as esters of orthophthalic acid. Orthophthalic acid, also called 1,2-benzenedicarboxylic acid, has CAS No. 88-99-3.

Some phthalates are identified as endocrine disruptors and some of them are classified as reprotoxic. For these reasons several phthalates are included in the Candidate list. Based on their hazardous properties, many other phthalates can pose a threat to the environment and human health and there is a ban on this group of substances.

Quaternary ammonium compounds that are not aerobically biodegradable such as DTDMAC (CAS No. 68783-78-8), DSDMAC (CAS No. 107-64-7), DHTDMAC (CAS No. 61789-80-8) and DADMAC (CAS No. 7398-69-8)

Quaternary ammonium compounds (QACs) are usually surface-active agents where some of them precipitate or denature proteins and destroy micro-organisms. QACs are toxic to many aquatic organisms including fish, daphnids, algae, rotifer and microorganisms employed in wastewater treatment systems.

Siloxanes

Commonly used siloxanes are the cyclic siloxanes cyclotetrasiloxane (D4), cyclopentasiloxane (D5) and cyclohexasiloxane (D6) and the linear polydimethylsiloxane (PDMS) also known as dimethicone. The cyclic siloxanes D4, D5 and D6 are toxic to human health and the environment having PBT and/or vPvB properties, whereas dimethicone is not considered toxic or bioaccumulative. However, there is a concern that over time, dimethicone will slowly degrade into smaller units exerting the same properties as the cyclic siloxanes. Therefore, the use of both cyclic and linear siloxanes is prohibited.

Silver, colloidal silver and nanosilver

Silver is antibacterial agent used in various consumer products, typically in nano form, where it has a greater effect per total amount of silver. Silver is hazardous to health since it is classified as reprotoxic and under assessment for endocrine disruptive properties. In addition, silver is extremely hazardous to the environment, classified H400 and H410 with an M factor of 10-1000 depending on particle size.

Substances on the REACH Candidate list of SVHC

The Candidate List identifies substances of very high concern which fulfil the criteria in article 57 of the REACH Regulation (EC 1907/2006). The list includes carcinogenic; mutagenic; and reprotoxic substances (CMR, categories 1A and 1B in accordance with the CLP Regulation); and PBT (persistent, bioaccumulative and toxic) and vPvB (very persistent and very bioaccumulative) substances (as defined in REACH Annex XIII). In addition, two more substance groups are included if they are of equivalent level of concern (ELoC) as the ones previously mentioned. These are endocrine disruptors and substances which are environmentally hazardous without fulfilling the requirements for PBT or vPvB. Based on these adverse characteristics, Nordic Ecolabelling prohibits substances on the Candidate List. This means that we act ahead of the legislation and ban the substances before they are subject to authorisation and restriction in accordance with REACH.

Volatile organic compounds (VOC)

Volatile organic compounds are undesirable, since they are typically harmful to health, often non-readily biodegradable in an aquatic environment and can have negative effects on the ozone layer.

VOCs (Volatile organic compounds) are defined under 1999/13/EC as substances that at 20°C have a vapour pressure > 0.010 kPa.

Nordic Ecolabelling exempts acetic acid, isopropanol, ethanol (including denaturing agents), and solvents in fragrances from this requirement. Occupational hygiene limits have been compared for ethanol and isopropanol compared to other solvents. The limits between different VOCs are large. The short time limit for ethanol (mg/m³) is for example 50 times higher than for formaldehyde. To reach the limit for acetic acid, ethanol, and isopropanol several bottles of cleaners would be needed to be used in a room during a workday.

Solvents in fragrances are exempt from exclusion of VOC since fragrances are restricted in other requirements.

O7 **Microplastics**

Microplastics* must not be present as ingoing substances in the cleaning product and must not be added to the product during manufacturing.

Nordic Ecolabelling has updated the definition of microplastics by adopting the EU definition in the REACH restriction on synthetic polymer microparticles, which entered into force on 17 October 2023. The new definition shall be used.

** Microplastics are synthetic polymer microparticles as defined in REACH Regulation ((EC) No 1907/2006), Annex XVII, Entry no. 78: Synthetic polymer microparticles: polymers that are solid, and which fulfil both of the following conditions:*

- a) are contained in particles and constitute at least 1% by weight of those particles; or build a continuous surface coating on particles.*
- a) at least 1% by weight of the particles referred to in point (a) fulfil either of the following conditions:*
 - 1. all dimensions of the particles are equal to or less than 5 mm.*
 - 2. the length of the particles is equal to or less than 15 mm and their length to diameter ratio is greater than 3.*

The following polymers are excluded from this designation:

- polymers that are the result of a polymerisation process that has taken place in nature, independently of the process through which they have been extracted, which are not chemically modified substances.*
- polymers that are biodegradable as proved in accordance with Appendix 15 [to REACH, Regulation (EC) No 1907/2006].*
- polymers that have a solubility greater than 2g/L as proved in accordance with Appendix 16 [to REACH, Regulation (EC) No 1907/2006].*
- polymers that do not contain carbon atoms in their chemical structure.*

N.B. The following "Conditions of restriction" paragraphs apply: 1 (concentration limit in mixtures), 2 (definitions), 3 (particle size limits). The remaining points do not apply, e.g. 4 (Paragraph 1 shall not apply to the placing on the market of:), e.g. 4(a) "synthetic polymer microparticles, as substances on their own or in mixtures, for use at industrial sites", 5

(derogations), e.g. 5 (b) "synthetic polymer microparticles the physical properties of which are permanently modified during intended end use in such a way that the polymer no longer falls within the scope of this entry".

- † Appendix 1 or equivalent declaration completed and signed.
- † Appendix 2 or equivalent declaration completed and signed by all raw material manufacturers/suppliers.

Background to requirement O7 Microplastics

Microplastics¹⁶ are very small fragments of plastic material. They can be harmful to health and the environment due to their size, surface properties, resistance to degradation and because they can carry harmful chemicals. By excluding microplastics 'added to the product during manufacturing', Nordic Ecolabelling also prohibits microplastics that are claimed to transform within the final product to no longer be defined as microplastics.

Microplastic pollution comes from various sources including pellets, paint, tires, textiles, personal care products, and various plastic items. In cleaning agents, microplastics can be added to formulas, for example, as granulates for scouring or as film-forming polymers. Microplastic pollution is found all over the world, at sea, in freshwater, sediments, sludge from wastewater treatment plants, and agricultural soil. Microplastics are detected in various aquatic organisms across the food chain, from zooplankton to vertebrates, and in human tissues and organs such as blood and placenta. The Nordic Swan Ecolabel uses the precautionary principle and strives to limit the use and release of microplastics wherever possible.

O8 Surfactants - aerobically and anaerobically biodegradable

All surfactants in the cleaning product, irrespective of their function in the product must be readily aerobically biodegradable* and anaerobically biodegradable*.

** In accordance with the DID-list "Detergents Ingredients Database" version 2023 or later, see Appendix 3 for further details. For substances not on the DID-list, or substances where biodegradation data is missing on the DID-list, the parameters must be calculated based on the guidance in part B of the DID-list and associated documentation must be presented.*

- † Documentation showing that the requirement is fulfilled. Nordic Ecolabelling's calculation sheet can be used which is obtained from Nordic Ecolabelling's websites.

Background to requirement O8 Surfactants

Surfactants are widely used in cleaning products and constitute a large proportion of the ingredients in such products. As cleaners are also used in places that lack connection to waste water treatment and go straight into nature it is relevant to set requirements on biodegradability of surfactants.

Compounds that accumulate in the environment can pose a risk both now and in the future if they are acutely toxic. Knowledge of the long-term effects of non-readily biodegradable substances is often in short supply. Rapid biodegradability under oxygen-rich (aerobic) and

¹⁶ <https://www.nordic-swan-ecolabel.org/nordic-ecolabelling/environmental-aspects/chemicals-nano-and-microplastics/microplastics/>

oxygen-poor (anaerobic) conditions is therefore of major environmental importance. Surfactants are essential in this context, since they are a group of organic substances that appear in large quantities, and since many surfactants are toxic to aquatic organisms.

The EU Detergent Regulation (EC) No 648/2004 prescribes that surfactants must be aerobically biodegradable, but there are opportunities for exemptions from the regulation for products for professional use. Since the possibility exists, we believe it is appropriate to retain the requirement of aerobic biodegradability of surfactants. Nordic Ecolabelling therefore requires surfactants (irrespective of function) to be biodegradable in both aerobic and anaerobic conditions for this product group.

Examples of surfactants that are not sufficiently biodegradable to clear this requirement include linear alkylbenzene sulphonate (LAS) and alkylphenol ethoxylates (APEO)/alkylphenol derivatives (APD).

LAS is toxic to aquatic organisms and not anaerobically biodegradable. Therefore, LAS is excluded from use as a surfactant. LAS is also excluded in requirement O6.

APEO and/or APD are a group of non-readily biodegradable surfactants that are proven endocrine disruptors. Legislation has prompted these substances to be phased in most products. They are excluded in this requirement and requirement O6.

O9 Fragrances

All fragrance substances in the cleaning product, including fragrance substances in plant extracts, must live up to the following requirements:

- Fragrances must be in line with the International Fragrance Association (IFRA) guidelines. The IFRA guidelines can be read at https://ifrafragrance.org/docs/default-source/51st-amendment/ifra-51st-amendment--guidance-for-the-use-of-ifra-standards.pdf?sfvrsn=79750005_2
- Substances with the hazard statement H317 and/or H334 or fragrance allergens listed in Annex III of the Cosmetic Regulation may be included in concentrations <0.0100% (100 ppm) of the cleaning product.
- The following substances are prohibited:
 - oak moss extract (*Evernia prunastri*, CAS No. 90028-68-5)
 - tree moss extract (*Evernia furfuracea*, CAS No. 90028-67-4)
 - HICC (CAS No. 31906-04-4, 51414-25-6)
- Fragrances must not be present in wash polish/wax-and-wash-products.
- Fragrances must not be present in professional* foam/spray cleaning products or their refills.
- For foam/spray products for consumers,* substances with the hazard statement H317 and/or H334 or fragrance allergens listed in Annex III of the Cosmetic Regulation may be included in concentrations <0.0050% (50 ppm) of the cleaning product.
- For mix-it-yourself refills for foam/spray products for consumers* substances with the hazard statement H317 and/or H334 or fragrance allergens listed in Annex III of the Cosmetic Regulation may be included in concentrations <0.050% (500 ppm) on condition that the stated dilution gives a concentration in the diluted product of <0.0050% by weight (50 ppm).

**See definitions for "Consumer products," "Professional products," and "Products for both professionals and consumers" in the [Definition Table](#).*

- † Appendix 1 or equivalent declaration completed and signed
- † Appendix 2 or equivalent declaration completed and signed by all relevant raw material manufacturers/suppliers.
- † Fragrance allergens list.

Background to requirement O9 Fragrances

Fragrances are a group of constituent substances that do not generally have a cleaning effect in the product, and at the same time they contain substances with negative health aspects, particularly allergens, as well as negative environmental effects, since they are usually not readily biodegradable and they tend to be classified as hazardous to the environment.

However, fragranced cleaning products hold a substantial market share. Nordic Ecolabelling therefore believes that a total ban on fragrances would make Nordic Swan Ecolabelled cleaning products considerably less widespread in the market. In addition to this requirement, requirements concerning environmentally hazardous substances, non-degradable substances and CDV are considered to limit the concentration of fragrances in products and encourage fragrances with a better environmental profile.

International Fragrance Association (IFRA) represents the fragrance industry. The association conducts safety assessments of fragrance substances and provide public standards/guidelines for the use of these. The requirement for compliance with IFRA's guidelines¹⁷ ensures that the manufacture, handling, and use of fragrances in the products meets specific standards in terms of prohibited substances, restricted use, and purity. IFRA's guidelines support the industry in offering products that are safe for consumers and for the environment. The guidelines apply to the manufacture and handling of all fragrance materials for all applications and contain the complete IFRA standards.

In 2023, the Cosmetic Regulation added 56 fragrance substances that must be declared on the packaging of cosmetic products, leading to a total of 80 substances that are subjected to declaration¹⁸. These substances are adopted from the EU Scientific Committee on Consumer Safety (SCCS) opinion on fragrance allergens in cosmetic products from June 2012¹⁹. SCCS refrains from recommending maximum limits for the content of the fragrance substances in cosmetic products but however states that the general limit of 100 ppm is tolerated by most consumers and wishes to guard against the development of new allergy sufferers both within generally tolerant and sensitive people. This limit is therefore also set in the requirement for fragrance allergens in cleaning products.

Nordic Ecolabelling do not distinguish between fragrance substances that are subject to declaration and fragrance substances that meet the classification H317 (may cause

¹⁷ Guidance for the use of IFRA Standards, The International Fragrance Association, 2023

¹⁸ Regulation (EC) No 1223/2009, 2009.

¹⁹ SCCS (Scientific Committee on Consumer Safety), opinion on fragrance allergens in cosmetic products, 26-27 June 2012

sensitisation by skin contact) or H334 (may cause allergy or asthma symptoms or breathing difficulties if inhaled), therefore the requirement includes all these substances.

SCCS recommends that chloroatranol, atranol, and HICC are not included in cosmetic products. Nordic Ecolabelling therefore consider it relevant to also prohibit their presence in cleaning products. Chloroatranol and atranol are the main components of oak moss extract (*Evernia prunastri*, CAS No. 90028-68-5) and tree moss extract (*Evernia furfuracea*, CAS No. 90028-67-4).

Nordic Ecolabelling finds that there is a strong justification for excluding fragrances from professional foam/spray products since cleaning personnel can be exposed frequently to the substances in the foam/spray products. Professional cleaning personnel are usually not able to choose whether the product contains fragrance and are likely to be exposed to fragrances involuntarily. The exposure can be direct contact with the skin or in the form of foam/sprays that create an aerosol during use.

Even for consumers, Nordic Ecolabelling sets stricter requirements for products sold in foam/spray bottles, since when using a foam/spray product, there is a greater risk of breathing in allergenic substances. Although respiratory aerosols are reduced using foam nozzles, Nordic Ecolabelling has chosen to use precautionary principle when setting the limit. See also requirement O22 regarding foam/spray nozzles.

The Nordic Ecolabel prohibits fragrances in wash polish/wax and wash care products. This product type is for large floor surfaces where it can lead to unwanted exposure of the cleaning staff and building occupants, which Nordic Ecolabelling wants to limit.

O10 Preservatives

- b) Preservatives included in the product or constituent substances must not be bioaccumulative. Preservatives are judged not to be bioaccumulative if $BCF < 100$ or $\log K_{ow} < 3$. If both values are available, the value for the highest measured BCF is to be used, see 0.
- c) Sensitising preservatives are permitted to a maximum of 100 ppm. Note that requirement O2 and O5 must also be fulfilled.

Note that isothiazolinones are forbidden in the products in requirement O6.

In mix-it-yourself RTU products, sensitizing preservatives may be present in concentrations up to 0.0100% by weight (100 ppm) in the diluted final product. Note, however, that requirement O2 (including prohibition of products classified H317 or H334) apply to these refills in concentrated form.

- ↑ a) Documentation of BCF or $\log K_{ow}$, Appendix 1 and 2 or similar documentation completed and signed and safety data sheet for the preservative.
- ↑ b) Calculation of the amount of ingoing sensitising preservatives in the final product

Background to requirement O10 Preservatives

Preservatives are added to liquid products to prevent bacterial growth in the products. Cleaning products usually need to be preserved and do not have self-preserving properties to the same extent as liquid laundry detergents, for example, so there is a need to add preservatives to cleaning products. Nevertheless, since preservatives are generally toxic to aquatic organisms and can cause hypersensitivity and allergies, Nordic Ecolabelling wishes

to limit preservatives via a requirement that they must not be bioaccumulative and that the levels must be optimised. Sensitising preservatives are also restricted.

a) Preservatives may be used in the products and in constituent substances only if they are not bioaccumulative. Bioaccumulative substances collect in the fatty tissue of living organisms and can cause long-lasting damage to the environment.

Unless otherwise proven, substances are bioaccumulative if $\log K_{ow} \geq 3.0$ under the OECD's guidelines 107 or 117, or equivalent. Such a substance may be tested on fish in line with the OECD's testing instructions 305 A–E. If the substance has a biological concentration factor (BCF) ≥ 100 the substance is bioaccumulative, and if the $BCF < 100$ the substance is considered not to be bioaccumulative. If there is a measured BCF value, the highest measured BCF is always the determining factor in the assessment of a substance's bioaccumulative potential.

The requirement ensures that licence holders do not begin using undesirable preservatives that can enter the ecosystem.

b) Since allergies to preservatives have risen in recent years²⁰ and Nordic Ecolabelling does not want to contribute towards unnecessary exposure, Nordic Ecolabelling has also chosen to restrict other sensitising preservatives, alongside the ban on isothiazolinones, see O6.

In cases where Nordic Ecolabelling has chosen to allow sensitising preservatives, they are permitted in quantities that do not trigger the labelling of the cleaning product with the warning "Contains xxx, may cause an allergic reaction" (see requirement O2). A limit of 100 ppm has also been set.

O11 Micro-organisms

Only intentionally added micro-organisms are permitted. Cleaning products containing micro-organisms shall comply with Detergent Regulation Annex II²¹ when published and the following conditions:

- a) The micro-organisms intentionally added to the product shall belong to a collection of an International Depository Authority (IDA) and be maintained by the culture collection for the authorised period of the Nordic Swan Ecolabelling licence
- b) The micro-organisms shall be identified and characterised using whole genome sequence (WGS) analysis according to "EFSA Guidance on the characterisation of microorganisms used as feed additives or as production organisms"²²
- c) The taxonomic classification of the micro-organisms shall be provided: genus, species, and strain name or code, based on current International Codes of Nomenclature (ICN)

²⁰ (Svedman, ym., 2012), (SCCS, 2013)

²¹ Regulation (EU) XXXX/ XXX refers to the final adopted version of the revised Detergent Regulation, which is not yet published and therefore lacks a regulation number. Link to proposed draft: <https://data.consilium.europa.eu/doc/document/ST-12331-2025-INIT/en/pdf>

²² EFSA Panel on Additives and Products or Substances used in Animal Feed (FEEDAP), G. Rychen, G. Aquilina, G. Azimonti, V. Bampidis, M. de L. Bastos, G. Bories, et al., 'Guidance on the Characterisation of Microorganisms Used as Feed Additives or as Production Organisms', EFSA Journal, Vol. 16, No. 3, March 2018. DOI: 10.2903/j.efsa.2018.5206

- d) The product shall not contain genetically modified micro-organisms
- e) The micro-organisms shall belong to both of the following:
 - o Risk Group I as defined by Directive 2000/54/EC – biological agents at work²³
 - o The Qualified Presumption of Safety (QPS) list issued by the European Food Safety Authority (EFSA)²⁴
- f) It must be controlled that the product is not contaminated with unintended microorganisms. Alternatively, the product should present a low risk of microbial contamination and/or intended use according to relevant European or international standards or equivalent test methods.
- g) The following pathogenic micro-organisms shall not be present in any of the strains included in the finished product when screened in accordance with European or international standards or test methods::
 - o Escherichia coli
 - o Streptococcus spp (Enterococcus spp)
 - o Staphylococcus aureus
 - o Bacillus cereus
 - o Salmonella spp
 - o Pseudomonas aeruginosa
 - o Candida albicans
 - o Any other pathogenic micro-organisms listed in the updated requirements for detergents containing micro-organisms of Regulation (EU) XXXX/XXX²⁵
- h) The minimum shelf life of a product shall not be shorter than 18 months, during which microorganisms count shall be guaranteed. Products in their in-use form shall have $\geq 1 \times 10^5$ colony-forming units (CFU) per ml in accordance with relevant European or international standard or an equivalent scientifically recognised method for the determination of microorganisms' numbers. The stability of the product, assessed under relevant storage condition and as recommended by the manufacturer, shall be demonstrated by measuring microorganisms' count at least every 18 months.
- i) Hazard identification of the micro-organisms, in accordance with "EFSA Guidance on the characterisation of microorganisms used as feed additives or as production organisms"²⁶ and/or the QPS status list, must confirm all the following:

²³ Directive 2000/54/EC of the European Parliament and of the Council of 18 September 2000 on the protection of workers from risks related to exposure to biological agents at work (seventh individual directive within the meaning of Article 16(1) of Directive 89/391/EEC) (OJ L 262, 17.10.2000, p. 21). <https://eur-lex.europa.eu/eli/dir/2000/54>

²⁴ EFSA BIOHAZ Panel, Allende, A., Alvarez-Ordóñez, A., Bover-Cid, S., Chemaly, M., De Cesare, A., Nauta, M., Peixe, L., Ru, G., Skandamis, P., Suffredini, E., Cocconcelli, P. S., Fernández Escámez, P. S., Maradona, M. P., Querol, A., Sijtsma, L., Suarez, J. E., Sundh, I., Barizzone, F., ... Ottoson, J. (2025). Updated list of QPS-recommended microorganisms for safety risk assessments carried out by EFSA [Data set]. Zenodo. <https://doi.org/10.5281/zenodo.15827398>

²⁵ Regulation (EU) XXXX/ XXX refers to the final adopted version of the revised Detergent Regulation, which is not yet published and therefore lacks a regulation number. Link to proposed draft:

<https://data.consilium.europa.eu/doc/document/ST-12331-2025-INIT/en/pdf>

²⁶ <https://www.efsa.europa.eu/en/efsajournal/pub/5206>

- (i) no acquired antibiotic resistance (across all the 5 classes: aminoglycosides, macrolides, beta-lactams, tetracyclines, fluoroquinolones or other quinolones, according to EUCAST or Nordic AST or other equivalent method)
 - (ii) shown not to produce relevant antimicrobial substances
 - (iii) non-pathogenic and non-toxicogenic properties
- j) A safety, hazard and risk assessment of the cleaning product must be performed including all foreseeable conditions of use claimed by the product. The exposure route via ingestion must be assessed for food contact surface cleaning products. The exposure route via inhalation must be assessed for cleaning products in spray format. The safety and risk assessment must cover:
- Impacts on human, animal, plant, and environmental health
 - Sensitizing potential (dermal and respiratory) in addition to other relevant endpoints
 - Vulnerable populations (e.g., immunocompromised, elderly, infants, pregnant women)
 - Justification for risk acceptability and uncertainty evaluation
 - Any necessary information for end-user to enable safe use
- k) Products containing micro-organisms must show a prolonged cleaning effect, as described in Appendix 5, by showing degradation continuously over a prolonged period as claimed by the manufacturer, otherwise, 7 days, of:
- Protein (e.g. via casein agar or other scientifically known medium showing protein degradation)
 - Starch (e.g. via starch agar or other scientifically known medium showing starch degradation)
 - Fat/vegetable oil (e.g. via "Spirit Blue"- agar or other scientifically known medium showing fat/vegetable oil degradation)
- l) Product label and user information must
- Clearly state that the product contains micro-organisms
 - Specify a shelf life
 - Provide usage instructions and precautions, particularly from the safety/risk assessment
- m) Analytical and test verification
- All testing must be conducted by laboratories complying with Appendix 3 (1A and/or 1B)
- † a) Certificate of deposition including accession number (IDA).
- † b) WGS documentation, in accordance with section 2.1.1 of "EFSA Guidance on the characterisation of microorganisms used as feed additives or as production organisms"²⁷
- † c) Taxonomic details (ICN)

²⁷ EFSA Panel on Additives and Products or Substances used in Animal Feed (FEEDAP), G. Rychen, G. Aquilina, G. Azimonti, V. Bampidis, M. de L. Bastos, G. Bories, et al., 'Guidance on the Characterisation of Microorganisms Used as Feed Additives or as Production Organisms', EFSA Journal, Vol. 16, No. 3, March 2018. DOI: 10.2903/j.efsa.2018.5206

- † d) Documentation that the strains are not genetically modified
- † e) Documentation demonstrating that the micro-organisms are classified as Risk Group 1.
- † e) Proof that the microorganisms belong to the QPS list issued by EFSA, with reference to the most up to date version
- † f) and g) Documentation describing how it is controlled that the product is not unintendedly contaminated with pathogen micro-organisms, or application of ISO 29621:2017 principles.
- † h) Documentation of colony forming units per ml in-use solution measured at the start and at least every 18 months for a product stored under relevant storage condition and as recommended by the manufacturer.
- † i) EFSA QPS list evidence or other documentation demonstrating compliance
- † j) Full safety/risk assessment structured as hazard identification, hazard characterisation, exposure assessment and risk characterisation. Justification for risk acceptability and uncertainty evaluation. Information for end-user to enable safe use.
- † k) Performance test demonstrating that the product degrades protein, starch, fat and vegetable oil over a prolonged period (can refer to laboratory report for requirement O15)
- † l) Product label and marketing material showing for which market and uses the product is designed, plus the application method and safety information on the label.
- † m) Documentation on the test laboratory demonstrating compliance with applicable parts of Appendix 3 (point 1A and/or 1B).

Background to requirement O11 Micro-organisms

Some manufacturers make cleaning products that contain living micro-organisms as active ingredients. In the draft Regulation on detergents and surfactants, the EU writes:

"Micro-organisms have their own biology and response to the environment. Due to their ability to proliferate, there is a clear difference between conventional and microbial detergents. Therefore, the inherent hazards and arising risks are not necessarily of the same nature as those presented by chemicals, especially in relation to the capacity of micro-organisms to survive and multiply in different environments and to produce a range of different metabolites and toxins of potential toxicological significance."²⁸

While Nordic Ecolabelling writes this criteria version 7, micro-organisms in cleaning products are not subject to regulation under the EU Detergents Regulation (EC) No 648/2004. However, harmonised rules governing the safety of micro-organisms in detergents as well as relevant test methods for economic operators to demonstrate compliance with those rules are proposed in the EU draft Regulation on Detergents and Surfactants,²⁹ which will apply 3 and 1/2 years after the regulation's entry into force.

²⁸ EU (2025). Draft of the revised Detergent Regulation, which is not yet published and therefore lacks a regulation number: <https://data.consilium.europa.eu/doc/document/ST-12331-2025-INIT/en/pdf>

²⁹ EU (2025). Draft of the revised Detergent Regulation, which is not yet published and therefore lacks a regulation number: <https://data.consilium.europa.eu/doc/document/ST-12331-2025-INIT/en/pdf>

Nordic Ecolabelling updated the micro-organism requirement in line with (or stricter than) the proposed Detergent Regulation and EU Ecolabel's proposed detergent criteria. This includes the identification and characterisation of micro-organisms using whole genome sequencing, the addition of tests for additional pathogenic micro-organisms, and a safety and risk assessment. Some of these requirements may be redundant after the revised Detergent Regulation goes into effect but will help establish good guidelines and routines for safety in the meantime.

The function of micro-organisms in cleaning products is to decompose organic material on the surface that is being cleaned. For example, this could be fats and proteins on a floor surface. According to some manufacturers, the primary advantage of products containing micro-organisms is that the surface can remain clean longer and can reduce bad odours. The long-term effect of microorganisms can reduce the need for heavy-duty/strong cleaning products, which in the long-term can reduce the use of cleaning chemicals and perfumes.³⁰

However, some micro-organisms added to microbial containing products may pose a risk to humans, animals and the environment, via hazards such as infection, intoxication, irritation and/or sensitization.³¹

Nordic Ecolabelling acknowledges the advances of cleaning products with micro-organisms to be efficient in some areas of cleaning. However, due to knowledge gaps regarding the environmental and health risks of micro-organisms in cleaning products,³² Nordic Ecolabelling applies the precautionary approach to potential risks and goes further than the draft EU Detergent regulation to ensure safety. Nordic Ecolabelling includes specific requirements for micro-organism-containing products, to establish the micro-organisms' identity and safety at the strain level.

NSE's revised micro-organism requirement requires that micro-organisms intentionally added to cleaning products must belong to both Risk Group 1 and the QPS list:

- Risk Group I as defined by Directive 2000/54/EC – biological agents at work.³³ A group 1 biological agent means one that is unlikely to cause human disease.
- The Qualified Presumption of Safety (QPS) list issued by the European Food Safety Authority (EFSA).³⁴ About QPS list: EFSA assesses the safety of

³⁰ communication with Innu Science and Novozymes

³¹ JRC (2025-03-05). Revision of EU Ecolabel criteria for detergent products, Technical Report v. 2.0 (draft). <https://susproc.jrc.ec.europa.eu/product-bureau/product-groups/411/documents>

³² VKM, Madslie, et al (2019). Current knowledge of the health and environmental risks of microbialbased cleaning products. Scientific opinion of the Panel on Microbial Ecology of the Norwegian Scientific Committee for Food and Environment. VKM report 2019:09 <https://vkm.no/english/riskassessments/allpublications/healthandenvironmentalassessmentofmicrobialbasedcleaningproducts.4.1aaadf0516963f003a25dde5.html>

³³ Directive 2000/54/EC of the European Parliament and of the Council of 18 September 2000 on the protection of workers from risks related to exposure to biological agents at work (seventh individual directive within the meaning of Article 16(1) of Directive 89/391/EEC) (OJ L 262, 17.10.2000, p. 21). <https://eur-lex.europa.eu/eli/dir/2000/54>

³⁴ EFSA BIOHAZ Panel, Allende, A., Alvarez-Ordóñez, A., Bover-Cid, S., Chemaly, M., De Cesare, A., Nauta, M., Peixe, L., Ru, G., Skandamis, P., Suffredini, E., Cocconcini, P. S., Fernández Escámez, P. S., Maradona, M. P., Querol, A., Sijtsma, L., Suarez, J. E., Sundh, I., Barizzone, F., ... Ottoson, J. (2025). Updated list of QPS-recommended microorganisms for safety risk assessments carried out by EFSA [Data set]. Zenodo. <https://doi.org/10.5281/zenodo.15827398>

microorganisms in the applications it receives for market authorisation of feed additives, food additives, and plant protection products. QPS status is the result of a pre-assessment that covers safety concerns for humans, animals, and the environment. During this process, experts assess the taxonomic identity of the microorganism, the related body of knowledge, and potential safety concerns.

Shelf life

By performing a stability test the producer will show that the reduction of micro-organisms over time is low, to ensure that the products perform well after storage before and after reaching the final users.

Risk Assessment

The risk assessment is a tool to help identify potential risks and safety measures for specific types of products and usage.

Performance

One of the claimed advantages of products containing micro-organisms is that they can offer a prolonged cleaning effect. To ensure that Nordic Swan Ecolabelled products offer good cleaning performance, products containing micro-organisms must comply with requirement O15 or O16 (as all other cleaning products) and, in addition, demonstrate that the product has a prolonged cleaning effect by breaking down protein, starch, and fat/vegetable oil continuously under approximately a one week period (or the period claimed by the manufacturer) through these laboratory tests:

Protein - degradation of proteins shown as degradation on standard casein agar medium or through other scientifically acknowledged medium displaying protein degradation.

Starch - degradation of starch shown as degradation on standard starch agar or through other scientifically acknowledged medium displaying starch degradation.

Fat and/or vegetable oil: degradation shown as degradation on "Spirit Blue"-agar medium or through other scientifically acknowledged medium.

Information on data sheet/label

It must be clearly stated on the product's label and/or data sheet that the product contains micro-organisms and all relevant information from the risk assessment about how to safely use the product.

5.4 Ecotoxicity and biodegradability

The requirements for ecotoxicity and biodegradability include three requirements:

- Long-term environmental effects
- Critical dilution volume (CDV)
- Content of substances which are not aerobically and/or anaerobically biodegradable

In all calculations, the highest recommended normal dose must be used. A higher dose is often indicated for special purposes, that are not performed daily. That dosage does not

need to be used in calculations. The water in the toilet is not included as a part of the in-use solution.

Note that if the product is dosed as a unit containing a water-soluble foil or sealing of paraffin wax intended not to be removed before diluting, the foil and/or wax must be part of the product formulation in the requirements O12-O14.

O12 Long-term environmental effects

Content of ingoing substances classified as environmentally hazardous according to Regulation 1272/2008/EEC (C_{total}) in the cleaning product is limited as follows:

$C_{total} \leq$ the limit value in Table 5

C_{total} is calculated using the following formula for all ingoing substances in the product:

$$C_{total} = M \cdot 100 \cdot C_{H410} + 10 \cdot C_{H411} + C_{H412}$$

where

M is the multiplying factor for H410 as described in the CLP regulation (EC) No 1272/2008

C_{H410} is the concentration of substances with H410 in grams/litre in-use solution*

C_{H411} is the concentration of substances with H411 in grams/litre in-use solution*

C_{H412} is the concentration of substances with H412 in grams/litre in-use solution*

**The amount of ingoing substances with respective classification in the product in grams per liter in-use solution based on the highest recommended normal dose stated on the packaging.*

See information concerning calculations with UVCB substances and perfumes in section 5 "Additional information concerning definitions of ingoing substances and impurities."

If data is missing on a substance, it is assessed according to a worst-case scenario with H410 and M factor of 10.

Table 5 Limit values for environmentally hazardous substances

Category	Limit value (LV) (grams / liter in-use solution)
Concentrated, consumer	10
RTU, consumer	10
Concentrated, professional	10
RTU, professional	10
RTU windows (professional and consumer)	2,5
Outdoor cleaners (professional and consumer)	0,0

† Appendix 1 (product) and Appendix 2 (raw material) signed and completed, or equivalent signed information.

† Calculation according to the above formula showing that the requirement is fulfilled. Nordic Ecolabelling's calculation sheet can be used which is obtained from Nordic Ecolabelling's websites.

Background to requirement O12 Long-term environmental effects

A Nordic Swan Ecolabelled cleaning product must never be classified as environmentally hazardous, see requirement O2 Classification of the product. Substances that are classified as environmentally hazardous may be present in cleaning products in limited quantities. Substances that are toxic to the environment and are also not readily biodegradable or substances that are chronically toxic (H410, H411 and H412) constitute a potential problem for the aquatic environment. Limitation of these adverse characteristics will reduce the risk of negative environmental impacts.

The environmental properties of cleaning products are important, because cleaning products are discharged via the treatment plant into the recipient watercourse. Consequently, a requirement has been set concerning the maximum content of environmentally hazardous substances in a product. By weighting the parameters, substances classified as H410 are subject to the greatest limitation. The weighting in the formula is connected to classification limits for environmentally hazardous substances.

From 1 December 2012 the CLP Regulation changed the criteria used as its basis for classification as environmentally hazardous. This meant that many surfactants which were not previously classified as environmentally hazardous now needed to be, and they were therefore at that time exempted from the requirement, as surfactants have an important irreplaceable function in cleaning products. To promote usage of less environmentally hazardous surfactants, surfactants are no longer exempted in this criteria version. The multiplying factor M for H410 classifications is included in the calculation. To accommodate for these changes, significantly higher limit values for all subcategories are introduced, except outdoor products where substances with H410, H411, and H412 are banned. If data is missing for a substance, it is assessed according to a worst-case scenario with H410 and M factor of 10, since M factors above 10 are rare.

O13 Critical dilution volume (CDV)

The critical dilution volume (CDV) is calculated for all constituent substances included in the cleaning product. CDV is a theoretical value that takes account of each substance's toxicity and biodegradability in the environment.

The product's critical dilution volume (CDV) is calculated based on the highest recommended dose stated on the packaging.

The product's critical dilution volume (CDV) may not exceed the limit values for CDV_{chronic} in Table 6.

Table 6 CDV limit values

Category	CDV_{chronic} (liters / liter in-use solution)
Concentrated, consumer	4 000
RTU, consumer	250 000
Concentrated, professional *	6 000
RTU, professional	250 000
RTU windows (professional and consumer)	25 000
Outdoor cleaners (professional and consumer)	4 000

CDV is calculated using the following formula for all substances in the product:

$$CDV_{chronic} = \sum CDV_i = \sum \left(\frac{dose_i \cdot DF_i \cdot 1000}{TF_{i,chronic}} \right)$$

dose_i = the constituent volume of each individual substance “i”, in g/l in-use solution

DF_i = degradation factor for substance “i”, in accordance with the DID list

TF_{i,chronic} = chronic toxicity factor for substance “i”, in accordance with the DID list.

If TF_{i,chronic} is lacking, TF_{i,acute} can be used.

** In accordance with the DID-list “Detergents Ingredients Database” version 2023 or later, see Appendix 3 for further details. For substances not on the DID-list, or substances where biodegradation data is missing on the DID-list, the parameters must be calculated based on the guidance in part B of the DID-list and associated documentation must be presented.*

See information concerning calculations with UVCB substances and perfumes in section 5 “Additional information concerning definitions of ingoing substances and impurities.”

Exemptions: Micro-organisms are exempted from the CDV calculation.

† Calculation according to the above formula showing that the requirement is fulfilled. Nordic Ecolabelling’s calculation sheet can be used and can be obtained from Nordic Ecolabelling’s websites.

Background to requirement O13 Critical dilution volume (CDV)

The critical dilution volume (CDV) is a theoretical value which considers the toxicity and aquatic degradability of each substance. Products with a lower CDV will have less potential adverse impact on the recipient watercourse.

CDV is calculated for all ingoing substances included in the cleaning product. Chronic data must be used because it better describes the environmental impact. When chronic data is unavailable, acute data can be used combined with higher safety factors.

Micro-organisms

Micro-organisms are living organisms that function more as “producers” of enzymes than as substances that are broken down when the product is used, so it is not relevant to include them in the CDV calculation. Furthermore, it is very difficult to place microorganisms in the CDV calculation, as they are not declared in a percentage concentration in the same way as other raw materials. Instead, their concentration is given in the form of number of “colony forming units” per millilitre. Micro-organisms are also not included on the DID list.

Micro-organisms produce enzymes that remain on the cleaned surface, but the quantity is judged to be very small. The enzymes produced are mainly lipase, protease, amylase and esterase. The effect on the CDV of these enzymes is expected to be small in comparison with, for example, the effects of surfactants and fragrances in cleaning products. According to one manufacturer, they are present in such small amounts that they cannot be measured using the typical enzyme measuring tools, either on the surface or in the air. Since the levels are so small, excluding them from the CDV calculation is not considered to pose any major risk.

O14 Content of substances which are not aerobically and/or anaerobically biodegradable (aNBO and anNBO)

The product's total content of substances that are not aerobically biodegradable* (aNBO) and that are not anaerobically biodegradable* (anNBO) may not exceed the limits stated in Table 7 per litre of in-use solution.

The product's aNBO and anNBO are calculated based on the highest recommended normal dose stated on the packaging.

** In accordance with the DID-list "Detergents Ingredients Database" version 2023 or later, see Appendix 3 for further details. For substances not on the DID-list, or substances where biodegradation data is missing on the DID-list, the parameters must be calculated based on the guidance in part B of the DID-list and associated documentation must be presented.*

See information concerning calculations with UVCB substances and perfumes in section 5 "Additional information concerning definitions of ingoing substances and impurities."

Note that all surfactants must be aerobically and anaerobically biodegradable in accordance with O8. See also the exemption from the requirement of anaerobic biodegradability for substances which are not surfactants (Appendix 3, section 6, Anaerobic biodegradability).

Table 7 Limit values for aNBO and anNBO

Category	aNBO (grams / litre in-use solution)	anNBO (grams / litre in-use solution)
Concentrated, consumer	0.04	0.08
RTU, consumer	1.00	1.50
Concentrated, professional	0.03	0.20
RTU, professional	1.00	1.50
RTU windows (professional and consumer)	0.50	0.50
Outdoor cleaners (professional and consumer)	0.00	0.00

† Calculation of the concentration of aNBO and anNBO for the cleaning product in grams / litre of in-use solution. Nordic Ecolabelling's calculation sheet can be used. This is obtained from Nordic Ecolabelling's websites

Background to requirement O14 Content of substances which are not aerobically and/or anaerobically biodegradable

A general requirement on the permitted amount of non-readily (aerobically) degradable and non-anaerobically degradable organic substances reduce the use of non-biodegradable substances in cleaning products to a minimal level. This requirement gives ecolabelled cleaning products a good degradability profile and reduces the potential accumulation of non-readily degradable substances in waste sludge and the environment.

In some places sludge is used as a soil improver. It is important that the sludge contains no or minimal levels of non-readily degradable substances, which can run-off into aquatic environments.

Substances that are commonly used in cleaning products and that are not readily degradable (aNBO) include: fragrances, phosphonates, EDTA, iminodisuccinate, certain

thickeners and colourants. Phosphonates and EDTA are also excluded under the requirement O6 excluded substances.

Organic substances with poor degradability remain in the environment for longer, which increases the risk of them damaging nature. Rapid biodegradability in both aerobic and anaerobic conditions is therefore desirable.

5.5 Performance

Under the performance requirement, a product must be at least as good as or better than the product with which it is being compared (the reference product). For professional products, the applicant can choose between conducting a laboratory test (O15) or a user test (O16), with the exception of cleaning products for kitchen equipment and household machines (e.g. dishwashing machine and laundry machine) for which a laboratory test must be conducted. Consumer products must be tested in accordance with the laboratory test (O15). Cleaning products for textile floors can be tested with a user test.

For mix-it-yourself RTU products, performance requirements apply for the diluted final product which shall be compared to a RTU reference product.

Products containing micro-organisms must demonstrate residual cleaning effects via the laboratory test as instructed in Appendix 5 under heading "Prolonged effectivity test for products containing micro-organisms."

O15 Performance test – laboratory test (professional and consumer)

This requirement applies to all consumer products. Professional products can choose laboratory test (this requirement) or user test (see requirement O16), however professional products for kitchen equipment and household machines (e.g. dishwashing machine and laundry machine) must use laboratory test.

The product must, through laboratory testing, demonstrate equal or better cleaning performance, when compared with a reference product in the same product category. The test product and reference product must also clean better than water alone.

If the product is marketed for both professional and consumer use, it must be tested against a professional product.

Alternative a:

The test must be performed by a laboratory that meets the requirements concerning test laboratories in Appendix 3 (point 1B).

The performance test must be performed in accordance with the test framework described in Appendix 5, where information about choice of product dosage, reference product, soil types, and report documentation requirements are also stated.

Alternative b:

If the product is tested in accordance with the EU Ecolabel's test for hard surface cleaning products (Commission decision of 23 June 2017 or later version), this laboratory test can be used. In addition, products containing micro-organisms must demonstrate residual cleaning effects via the laboratory test as instructed in Appendix 5 under heading "Prolonged effectivity test for products containing micro-organisms."

† Alternative a: Documentation on the test laboratory demonstrating compliance with the requirements concerning test laboratories in Appendix 3 (point 1B).

- † Alternative a: Test report in accordance with Appendix 5. The report shall demonstrate that the product is equal to or better than the reference product and better than water. If the product contains micro-organisms, the product must demonstrate residual cleaning effects.
- † Alternative b: Description of how the EU Ecolabel test has been performed and complete results from the test.
- † Alternative b: If the product contains micro-organisms, the EU Ecolabel test must be supplemented by a test report in accordance with Appendix 5 demonstrating residual cleaning effects.

O16 Performance test - user test (professional products)

This requirement applies only to professional products that choose to demonstrate product performance with the user test. (The alternative is to choose the laboratory test, see requirement O15.) Professional products for kitchen equipment and household machines (e.g. dishwashing machine and laundry machine) must use laboratory test.

The product must demonstrate cleaning performance that is equal to or better than a reference product within the same product category in 80% of tests.

The performance of the product is judged on the following parameters:

1. Ability to remove soil in comparison to the reference product
2. Gentleness to the cleaned surface (i.e., material care) in comparison to the reference product
3. Effectiveness in comparison to the reference product

In addition, there are some specific questions for certain product types (WC/sanitary, window cleaners, outdoor cleaners, wash polish/wash-and-wax products, and products that contain micro-organisms).

The tests must be performed by at least 5 users. The users must be professional cleaning staff. All users/testers must complete the form in Appendix 6 (for all cleaning products except wash polish/wash-and-wax) or Appendix 7 (for wash polish/wash-and-wax products). The applicant must then collate the results according to the "summary of results" form in Appendix 6 or Appendix 7. The formulation of the test product must be attached to the overall result of the user test.

If the product is tested in accordance with the EU Ecolabel's test for all-purpose cleaners and sanitary cleaners (Commission decision of 23 June 2017 or later version) and the tests are performed by at least 5 users who are all professional cleaning staff, this user test can be used.

For professional products containing micro-organisms that conduct a user test: these products must also conduct a laboratory test to demonstrate residual cleaning effects as instructed in Appendix 5 under heading "Prolonged effectivity test for products containing micro-organisms." This applies whether using Nordic Ecolabelling's or EU Ecolabel's user test.

- † Alternative a) for all cleaning products except wash polish/wash-and-wax care products: Description of how the test is performed, plus all fully completed questionnaires, plus a summary of the responses (see Appendix 6), and the formulation of the test product.

- † Alternative b) for wash polish/wash-and-wax care products: Description of how the test is performed, plus all fully completed questionnaires, plus a summary of the responses (see Appendix 7), and the formulation of the test product.
- † Alternative c) Description of how the EU Ecolabel test has been performed, the complete results from the test (only if the tests are performed by at least 5 users who are all professional cleaning staff), and the formulation of the test product.
- † If the product contains micro-organisms, the user test must be supplemented by a test report in accordance with Appendix 5 demonstrating residual cleaning effects.

Background to requirement O15 and O16 Performance test - laboratory and user test

Performance tests are primarily a quality requirement to ensure that a good cleaning result is achieved at the stated dose of the ecolabelled product. A product that shows good performance at the dose stated on the label reduces the risk of over-dosing, since the user can see that the product is effective and has no need to use more than is recommended.

Under the requirement, a product must be at least as good as or better than the product with which it is being compared (the reference product). For professional products, the applicant can choose between conducting a laboratory test (O15) or a user test (O16), with the exception of cleaning products for machines and kitchen equipment, which must be tested in accordance with the laboratory test.

The laboratory test is the only option for consumer products (O15). The reason for this is partly that Nordic Ecolabelling has not seen any great demand to be able to conduct user tests on consumer products, and partly that professional users have more experience of using products since they do so every day, and so a test performed by a professional user yields more information than one performed by a consumer.

Laboratory test

The laboratory test involves the test product (the product that is the subject of the Nordic Swan Ecolabel licence application) being tested in a laboratory and compared with a reference product. The reference product must be in the same category and have the same area of use as the test product, e.g., a concentrated floor cleaner for consumer use must be compared with another concentrated floor cleaner. The reference product must be a product in a conventional format (e.g., liquid, gel, powder, tablet) that is well-established/well-known in the market. The reference product in the laboratory test may be from the same manufacturer as the product for which a licence is being sought. Nordic Ecolabelling has not specified a list of which reference products can be used, since cleaning products come in countless variations, making such a reference list extremely long and difficult to keep updated.

In order for the product to be judged effective, the test product must be equal to or better than the reference product and better than water. This latter point means that the tested cleaning product must have a better cleaning effect than cleaning just with water.

The requirements concerning the laboratory are set out in Appendix 3 of the criteria.

The instructions for the laboratory test can be found in Appendix 5.

Products that are marketed for multiple areas of use or other types of soil must be tested on all the key soil types for which the product is marketed, including soil types that may not be

listed in Table 1 in Appendix 5 (e.g., soil containing protein and starch). WC cleaners must be tested for limescale.

For cleaning products for machines, the product shall be tested in the machine if possible. If it's not possible to test the product in the machine, soiled surface(s) shall be submerged in the diluted solution with minimal mechanical action (slow stirring of the solution) in order to best mimic the product's method of cleaning.

Outdoor cleaners are a separate category in Appendix 5. The soil types have been chosen to be soot, fat, oil, asphalt and biological material. As stated in the section "What can carry the Nordic Swan Ecolabel," products claiming biocidal effects such as products killing algae cannot be labelled.

Micro-organisms added to cleaning products are meant to continue cleaning the surface over several days. To reliably document what is happening at a microbial level over time, Nordic Ecolabelling requires a laboratory test. Therefore, products containing micro-organisms must demonstrate residual cleaning effects via the laboratory test as instructed in Appendix 5 under heading "Prolonged effectivity test for products containing micro-organisms."

User test

In this revision, Nordic Ecolabeling considered to remove the alternative for professional products to meet the performance requirement with a user test. However, due to lack of standard test methods and difficulty in recreating in a laboratory the reality of how some professional products are used, Nordic Ecolabelling has instead revised the user test to be more robust. Now the user test must be performed by at least 5 users and the users need to be professional cleaning staff.

The EU Ecolabel's user tests for "Hard-surface cleaning products" can fulfil this requirement only if 5 users who are all professional cleaning staff carry out the performance test. This is in line with Nordic Ecolabelling's revision of the user test requirements.

The user test involves the product being sent out, along with a questionnaire (found in Appendix 6 and Appendix 7 of the criteria), to a selection of testers/companies whose professional cleaning staff test the product at least 10 times in each place. After conducting the test, the tester considers how effective the test product was in comparison with the product that the tester usually uses (the reference product), which should be a product for the same purpose and in the same category. The tester then judges the performance based on:

- Ability to remove soil
- Gentleness to the cleaned surface (i.e., material care)
- Effectiveness
- In some cases, other criteria specific to the type of cleaner

For products containing microorganisms, Appendix 6 and Appendix 7 have extra questions about the long-term effect of the product compared with other products. This is to indicate whether the microorganisms have an additional effect from the users' perspective. However, a laboratory test is still required to demonstrate prolonged cleaning effect (see O11 Micro-organism requirement and lab test instructions in Appendix 5).

For a product to pass the test, 80% of the testers/testing companies must state that the product is as good as or better than the reference product.

For wash polish/wax-and-wash care products, the questions for the user test in Appendix 7 are divided into sections regarding application and cleaning/maintenance. The test persons will write how good they think the product is and at least 80% of the test persons need to give the product an overall grade of 3 or higher to give the product a final ok on performance.

5.6 Packaging requirements

Nordic Ecolabelling have set requirements on packaging to contribute to a circular economy by increasing the possibility to recycle the material, improving the quality of recycled material, and promoting reuse of materials. Additional packaging requirements for foam/spray products and mix-it-yourself RTU products reduce health risks for the end user. The following are requirements on the primary packaging such as bottles, containers, pouches, and cardboard for liquid products:

- O17 Recycling design of packaging and closures (excluding pouches)
- O18 Labels for rigid plastic packaging
- O19 Recycling design of pouches/plastic bags
- O20 Cardboard for liquid products: Design for recycling
- O21 Weight-Utility Ratio (WUR)
- O22 Packaging for foam/spray products and mix-it-yourself RTU products

Sales packaging made of plastic must either live up to requirements O17-O19 below or the sales packaging must have a Recyclability certificate from RecyClass showing that the whole sales packaging is recyclable with a minimum recyclability score of B.

O17 Recycling design of packaging and closures (excluding pouches)

Plastic packaging of less than 200 litres must have a design that enables effective material recovery. This means that:

- The plastic packaging and closure must be made from Polyethylene (PE), Polypropylene (PP) or Polyethylene terephthalate (PET).

Exemption: Small parts in dispensing systems, however they must not contain PS, PVC or other halogenated plastics. For dispensing systems used on a PET bottle, each small part must have a density $<1.0 \text{ g/cm}^3$.

- Packaging must be white or uncoloured.

Exemption: Packaging containing postconsumer recycled plastic may be coloured/tinted.

- Carbon black pigments are not permitted.

Exemption: Small amounts of carbon black used in other colours than black. It must then be documented that the NIR sensor reads and sorts the box/bottle/container or the closure to the correct plastic fraction.

- Fillers (such as CaCO_3) cannot be included in PE or PP packaging and closures at a level that the density of the plastic exceeds 0.995 g/cm^3 .
- Metal parts may not be included in the packaging or closure.

Exemption: Parts for foam triggers as well as other parts of the foam function in foam bottles, which are sold together with refill packaging to the professional market. Small metal parts in pumps are also exempted (both for professional and consumer, with or without refill).

- Packaging (e.g. bottle) and closures must be compatible with each other, in accordance with the following:
 - PET packaging: closures must have a density of less than 1 g/cm³. Silicon closures are not allowed
 - PP and PE packaging: Silicon closures are not allowed
 - PE packaging: PP/OPP-closures are not allowed unless the following test or similar is stated on the packaging: "Take the cap/closure off prior to recycling to improve recycling".

Packaging includes bottles, containers and similar. Closures include caps/lids, dosage equipment and pumps mounted on the packaging.

- † A signed declaration of compliance with the stated material composition for the packaging, including bottle, closure, filler and the density of the packaging, colorant where applicable. Appendix 4 or an equivalent declaration may be used. Alternatively, recyclability certificate from RecyClass showing that the whole sales packaging is recyclable with a minimum recyclability score of B
- † Packaging specifications (including bottle and closures) or certificate showing the materials used and the colours of any plastic packaging or closures. Not applicable if the requirement is documented by a RecyClass certificate.
- † Label showing text regarding instruction to remove the cap before recycling, where applicable.

O18 Labels for rigid plastic packaging: Design for recycling of packaging

The following is required for labels ("traditional label," shrink film label, sleeve, etc.):

Label material

For packaging made from polyethylene (PE) and polypropylene (PP):

- The label must be of the same material as the packaging (PE/PP) and the polymer composition of the label material (excluding adhesive and print) must consist of either > 95% polypropylene (PP) or > 99% polyethylene (PE). The total density of the label must be < 1.0 g/cm³.

Exemption for PE packaging: Fold-out (cross-over) labels of PP if the label does not cover more than 60% of the packaging surface.*

For packaging made from polyethylene terephthalate (PET):

- The polymer composition of the label material (excluding adhesive, print and liner) must consist of either > 95% polypropylene (PP) or > 99% polyethylene (PE). The total density of the label must be < 1.0 g/cm³.
- The label must not cover more than 60% of the packaging surface*.

**Instructions and example calculations can be found in section 8 in Appendix 3.*

Print

- Printing inks for rigid plastic packaging must be compliant with EuPIA exclusion policy**

- Direct print on the container is not permitted except for date codes, batch codes and UFI (Unique Formula Identifier).

** In accordance with https://www.eupia.org/wp-content/uploads/2024/03/20240313-EuPIA_Exclusion_Policy_for_Printing_Inks_and_Related_Products_-March-2024_6th-Edition-v1-1.pdf

- † Label specifications showing the material used and density. Appendix 4 can be used. Alternatively, recyclability certificate from RecyClass showing that the whole sales packaging is recyclable with a minimum recyclability score of B.
- † For labels of different material than the packaging: Calculation of label size compared to the surface of the container. Nordic Ecolabelling's calculation sheet for the packaging can be used. Not applicable if the requirement is documented by a RecyClass certificate.
- † Declarations that PS, PVC and other halogenated plastics, aluminium and other metals have not been used. Appendix 4 can be used. Not applicable if the requirement is documented by a RecyClass certificate.
- † Declaration from the applicant that direct print is not used except for date codes, batch codes and UFI. Appendix 1 can be used.

Background to requirement O17 and O18 Design for recycling of packaging

To contribute to a circular economy, the sales packaging must be designed in a way that enables reuse and/or the best recyclability potential as well as the use of recycled material. The different materials used in the sales packaging must be separable from each other, so that the materials can be entered into their own material stream for recycling at end-of-life.

The sales packaging must either live up to the requirements above or alternatively, have a Recyclability certificate from RecyClass showing that the whole sales packaging is recyclable with a minimum recyclability score of B. Recyclability assessed by RecyClass guidelines are based on a traffic-lights system assessing the whole sales packaging with all its components which means that in addition to the main body, closure systems, labels and sleeves, adhesives etc. are also included. The class ranking on the whole packaging cannot directly be compared with the individual requirements above and may thus vary at component level. RecyClass certificate with minimum score of B is, however, considered as a sufficient indication of the recyclability of the packaging. Documentation via certificate also simplifies the case handling of the requirement.

Bottle

“Plastförpackningar – En återvinningsmanual från FTI” (Plastic Packaging – A recycling manual from FTI, the company that was previously responsible for recycling packaging in Sweden) lists plastic packaging made from Polyethylene (PE), Polypropylene (PP) and Polyethylene terephthalate (PET) as the plastic types that are best from a recycling perspective. PP and HDPE packaging works for every stage of the recycling process. However, PET has a limited market of purchasers.³⁵ Since these types of plastic are the best from a recycling perspective, Nordic Ecolabelling also sets requirement that the plastic bottles must be made from these plastic materials.

³⁵ Förpacknings- och Tidningsinsamlingen, Plastförpackningar – En återvinningsmanual version 0.7, June 2017.

Compostable/biodegradable plastics such as PLA are not suitable for recycling in today's systems and can cause problems in the existing material recovery process. Such compostable/biodegradable plastic therefore does not fit in with the EU's objective of increasing material recovery and promoting the circular economy in the current Nordic recycling system as it stands today. Nordic Ecolabelling has therefore decided not to include compostable/biodegradable plastic on the list of accepted packaging materials.

Closure (caps/lids/pumps)

Since Polyethylene (PE), Polypropylene (PP) and Polyethylene terephthalate (PET) are the plastic types that are best from a recycling perspective, PS and PVC or plastics based on other types of halogenated plastics not allowed in the closure or label either.

An exemption is made for small parts in dispensing systems, as there are few dispensing systems on the market made of mono material and these small parts play a crucial role in the function of the dispensing systems. However, they must not contain PS, PVC or other halogenated plastics. For dispensing systems used on a PET bottle, each small part must have a density $<1.0 \text{ g/cm}^3$, in order to separate from the PET during the sink/float process³⁶.

Silicone closures are not allowed on the bottles since they influence the recycling process in a negative way. The optimal is to have the closure in the same material as the bottle, see more under section "compatibility" below.

Colourants and printing

Nordic Ecolabelling wishes to encourage the highest possible quality and purity of the products that enter the material recovery systems. The leaflet from Plastkretsen and FTI also mentions the way that colourants and inks affect the recycling potential and the quality of recycled plastic. Reducing the use of chemical colourants is one of the tips given. Colourless plastics have the highest recovery value, making them easier to recycle. Dark colours that include carbon black can cause problems in modern and automated sorting plants, as the systems have difficulty analysing dark colours. These products can therefore end up in the residual waste fraction and not be recycled. Consequently, Nordic Ecolabelling sets the requirement that plastic packaging, including closures must not be black.

In the recycling process the pigments cannot be removed from the recycled materials. During discussions with the industry, Nordic Ecolabel has come to understand that when using recycled plastics, it is sometimes necessary to add pigments to tone the plastic to give it a more appealing colour.

The Nordic Ecolabel has decided to exempt packaging made from post-consumer recycled plastic from this requirement and they can be coloured/tinted. The coloration/tint cannot be done with carbon black, since that is the pigment that causes most problems during recycling.

Label

There is a strong interest from the recycling sector for the Nordic Ecolabel to set requirements on the labels that promote recycling, and there is a lot happening in this area now both politically and technology wise. The Nordic Ecolabel's intentions are to follow the

³⁶ Correspondence with Sina Lystvet, Grønt Punkt Norge, 2021-01-08

political development in Europe on this. The goal is to set requirements on packaging and labels securing good recyclability.

When it comes to recycling plastic packaging, the best alternative is when the label is made of the same material as the bottle. Otherwise, if the near-infrared sensor at the sorting facility hits the label instead of the bottle, the bottle may end up in the rejected fraction. Therefore, Nordic Ecolabelling sets requirements on labels to promote correct sorting and minimize rejects.

Fold-out labels are increasingly common. To ensure both the label's quality while on the package and recyclability of the package after use, Nordic Ecolabelling has set requirements for fold-out labels.

Paper labels on plastic bottles can cause fibres from the paper labels to be transferred into the recycled plastic and cause problems for the manufacture of new products. Therefore, paper labels are not allowed.

A float/sink bath is another sorting step that can sort plastics of different densities. For PET containers, only PP or PE labels with density <1.0 g/ml are allowed to ensure correct separation in the float/sink bath. (PET has a density > 1.0 g/ml). As a consequence, for the time being, cPET labels are not allowed.

PET-G labels/shrink film labels are excluded on PET containers since PET-G is problematic in recycling in large quantities as it is not compatible with the PET commonly used for the containers (A-PET).

PVC and other halogenated plastics are excluded since they lead to adverse environmental impacts in waste handling.

Laser printing is permitted as there are no inks used in the process.

Direct printing on the container is restricted, as ink residues lower the quality of the recycled plastic.

Metallized labels can be detected by metal detectors causing the packaging to be sorted to reject. Thin metal layers do not seem to possess major problems for the sorting or recycling, if the labels can be separated from the containers. However, these metal materials will not be recycled, and single use of metal is not supportable from a resource point of view.

Metal

Metal residues, for their part, cause plastics to be rejected if there are metal detectors on the sorting line. Metal residues can also break down the plastic and become a problem in later plastic production^{37, 38}. An exception is made, however, for metal used for the foam function in foam flasks that are used repeatedly (professional products), as this is important from a quality perspective.

It was decided in December 2020 to allow metal parts in pumps, in line with criteria version 6.1 and onwards for hand dishwashing detergents. Recyclers have confirmed that while this metal is not recycled as metal, it does not interfere with plastic recycling. However, pumps help with controlled dosing.

³⁷Plaskretsen and FTI, Bättre förutsättningar för återvinning av plastförpackningar.

³⁸ <http://www.plasticsrecycling.org/hdpe> sourced on 08.08.2017

Compatibility

Inorganic filler can change the density of the plastic. If the plastic becomes too heavy, it sinks to the bottom in the water bath and is separated out for incineration instead of material recovery. This is why the criteria for cleaning products also contain a requirement that filler must not be added to the HDPE to such a level that its density exceeds 1 g/cm³ and to PP in such level that the density exceeds 1 g/cm³.

Nordic Ecolabelling proposed earlier to ban OPP and PP closures on HDPE bottles. The reason for this was that PP has a higher melting point than HDPE and thus causes problems when using the recovered HDPE fraction^{39, 40}. PP labels on an HDPE bottle weigh very little in this context, but a PP closure on an HDPE bottle leads to too much PP in the HDPE fraction, in percentage terms⁴¹. However, the market is not yet ready for such a ban on PP closures on HDPE-bottles. There are advantages of having different plastic materials in closure and bottle when looking at how well the bottle is closed and avoids leakage. Producers state that it is hard to injection mold flip top closures in HDPE. It is also hard for the producers to go from HDPE bottles to PP bottles due to differences in mechanical properties. Nordic Ecolabelling has therefore chosen to instead add a text to encourage the user to separate bottle and closure before recycling. Nordic Ecolabelling will look closer on this and re-evaluate this during coming revisions.

O19 Recycling design of pouches/plastic bags

Plastic pouches or bags must have a design that enables effective material recovery. This means that they must meet the requirements below.

- The plastic packaging and closure must be made from Polyethylene (PE), Polypropylene (PP) or Polyethylene terephthalate (PET).
- Exemption is made for pouch valves for closed dosing systems for professional use. PS, PVC and other halogenated plastics are not allowed. The packaging must be made of monomaterial, i.e. not laminates with layers of different materials.

Exemption: Barrier coatings can only be made of EVOH (Ethylene vinyl alcohol) in maximum amounts of 5% related to the total weight of the film.

- Silicone, PS and PVC or plastics based on other types of halogenated plastics must not be present in the closure or label.
- Carbon black pigments cannot be added to the pouch or closures.

Exemption is made for text and pictograms and for small amounts of carbon black used in other colours than black. It must then be documented that the NIR sensor reads and sorts the pouch or the closure to the correct plastic fraction.

- Fillers (such as CaCO₃) cannot be included in PE or PP packaging and closures at a level that the density of the plastic exceeds 0.995g / cm³.

Closures include caps and lids. The packaging includes pouches or other plastic "bags".

- † A signed declaration of compliance with the stated material composition and barrier coatings, for the packaging including pouch, closure, filler and the density of the pouch, colourant where applicable. Appendix 4 or an equivalent declaration may be

³⁹ Förpacknings- och Tidningsinsamlingen, Plastförpackningar – En återvinningsmanual version 0.7, June 2017.

⁴⁰ <http://www.plasticsrecycling.org/hdpe> sourced on 08.08.2017

⁴¹ <http://www.plasticsrecycling.org/hdpe> sourced on 08.08.2017

used. Alternatively, recyclability certificate from RecyClass showing that the whole sales packaging is recyclable with a minimum recyclability score of B.

- ↑ Packaging specifications (including pouch, labels and closures) or certificate showing the plastic used and what colours the packaging and closure has. Not applicable if the requirement is documented by a RecyClass certificate.

Background to O19 Recycling design of pouches/plastic bags

Nordic Ecolabelling has had dialogue with Svenska Förpackningsinsamling (FTI, the company that was previously responsible for recycling packaging in Sweden) regarding pouches. They suggested only accepting pouches of PE since they are the easiest to recycle, but Nordic Ecolabelling has decided to use the same requirements on plastics as in O17 for bottles/containers etc. An extra requirement has been added regarding not allowing laminates of different material layers, i.e., the pouches must be made of mono-materials.

Nordic Ecolabelling has decided only accepting EVOH up to maximum 5% (in relation to the maximum weight) as a barrier coating. This is in line with what the recycling companies recommend so that the recycling process is not adversely affected. In the EU Ecolabel there is a requirement on barrier coatings banning polyamide barriers, functional polyolefins, metallised barriers and light-blocking barriers. The requirement of Nordic Ecolabelling also excludes these coatings.

The requirements on colour and fillers are the same as for bottles (O17).

O20 Cardboard packaging for liquid products: Design for recycling

The sales packaging* must have a design that enables material recovery. This means that cardboard packaging for liquid products must meet the requirements below.

- At least 90% by weight of the sales packaging must be made of bio-based material* or post-consumer/commercial recycled material (PCR)* or a combination of these. A mass balance approach is permitted.
- Halogenated plastics (e.g. polyvinyl chloride (PVC) and polyvinylidene chloride (PVDC)), oxo-degradable plastic and biodegradable plastic must not be used.
- Packaging must not be surface treated with PFAS** either on the inside or on the outside of the packaging.
- Metal must not be used.
- Labels must not be used.

Exemption: Removable covers/labels on the closure added to indicate that the product is not a food item

- Printing inks must be compliant with EuPIA*** exclusion policy

Materials

Additionally, the following raw material requirements apply:

Paper/paperboard

- A minimum of 70% of the wood raw material used in the paper/paperboard must originate from forestry certified under the FSC (Forest Stewardship Council) or

PEFC (Program for the Endorsement of Forest Certification) schemes, or the raw material can be recycled (PCR)*, or a combination of the two.

- The remaining proportion of wood raw material must be covered by the FSC/PEFC control schemes (FSC controlled wood/PEFC controlled sources).

Bio-based* plastic

- Palm oil including PFAD (Palm Fatty Acid Distillate) and POME (Palm Oil Mill Effluent), soybean oil, and soy flour must not be used for bio-based polymer.
- The origin of other raw materials must be verified as either a) or b):
 - n) Waste* or residual products* defined in accordance with (EU) Renewable Energy Directive 2018/2001. There must be traceability back to the production/process where the residual production occurred.
 - o) Certified by one of the following certification schemes:
 - Bonsucro EU
 - ISCC EU or ISCC Plus
 - A standard/certification scheme that meets Nordic Ecolabelling's requirements for raw material standards, please see appendix 8.
 - The supplier of the bio-based polymer must have a valid chain of custody (CoC) certificate according to the standard by which the raw material is certified. Traceability must at least be ensured by mass balance. Book and claim systems are not accepted.

* See list of definitions in section 5 of this document.

** PFAS is defined as any substance that contains at least one fully fluorinated methyl (CF₃) or methylene (-CF₂-) carbon atom (without any H/Cl/Br/I attached to it).

*** In accordance with https://www.eupia.org/wp-content/uploads/2024/03/20240313-EuPIA_Exclusion_Policy_for_Printing_Inks_and_Related_Products_-March-2024_6th-Edition-v1-1.pdf.

- † Packaging specifications, showing percentage (by weight) of paperboard, barriers (material type, whether it is biobased or PCR and percentage) and other elements such as closure (material type, whether it is bio-based or PCR and percentage). Appendix 4 can be used.
- † Calculation showing that the requirement for the proportion of bio-based or recycled material in the sales packaging is fulfilled. Appendix 4 can be used.
- † Declarations that PVC and other plastic based on other types of halogenated plastics, oxo-degradable plastic and biodegradable plastic have not been used, that aluminium and other metals have not been used, that the packaging has not been treated with PFAS, and that labels are not used. Appendix 4 can be used.
- † For paper/paperboard: The producer of the packaging must document, for instance based on invoice or delivery note, that the requirement of minimum 70% certified or recycled material is met on a yearly basis, and that the remaining proportion is covered by the FSC/PEFC control schemes.
- † For biobased plastic: Declaration that palm oil incl. PFAD and POME, soy oil and soy flour have not been used as raw material for the bio-based polymer. Appendix 4 can be used.

- † For biobased plastic (waste and residual products): Documentation that the requirement's definition of waste or residual products is met, as well as traceability which shows where the waste or residual product comes from.
- † For biobased plastic (certified raw materials): Copy of valid CoC certificate or certification number from the raw material supplier. Documentation in form of invoices or delivery notes documenting the purchase of certified bio-based polymer.

Background to requirement O20 Cardboard packaging for liquid products: Design for recycling

There is a trend towards using cardboard packaging for cleaning products. Nordic Ecolabelling supports the shift toward this packaging format but sets strict requirements to ensure that only the most sustainable and resource-efficient solutions are accepted.

At least 90% by weight of the sales packaging must be made of bio-based material or post-consumer/commercial recycled material or a combination of these. This promotes the use of sustainable, renewable raw materials (both paper/paperboard and biobased plastics) or recycled material as an alternative to fossil-based plastics. Recycled material is defined according to ISO 14021, see definitions in chapter 5.1.

Halogenated plastics, such as polyvinyl chloride (PVC) and polyvinylidene chloride (PVDC) must not be used in the packaging because of emissions of harmful organic chemicals from the entire production chain and challenges with waste management during production and end of life. Read more about Nordic Ecolabelling's position on PVC here: [PVC](#).

Oxo-degradable and biodegradable plastics must not be used since they "contaminate" the other recycled plastics streams in the Nordic region. Read more about Nordic Ecolabelling's position on biodegradable plastics here: [Biodegradable plastics](#). Bio-based plastic in PET, PE and PP can be recycled in the same way as fossil-based plastic in PET, PE, and PP.

Metal must not be used for packaging as metal production is associated with a large climate and environmental impact. While aluminium from cardboard packaging for liquid products can be recycled, it's excluded due to high energy consumption. Any aluminium use also drives demand for new aluminium, as recycling supply falls short. Direct print rather than the use of labels is preferable in the recycling process⁴². Printing ink must be compliant with EuPIA exclusion policy for printing inks and related products⁴³. Surface treatment of the sales packaging with PFAS can occur. PFAS constitute a group of substances that have highly problematic intrinsic hazardous properties. Therefore, such surface treatment is prohibited in packaging of Nordic Swan Ecolabelled products.

For cardboard, a minimum of 70% by weight must be post-consumer recycled material or the wood raw material in the packaging must be FSC-/PEFC-certified. The remaining proportion of wood must meet the requirements of FSC controlled wood or PEFC controlled sources. The requirement limit, a minimum of 70% of all wood raw material (virgin or recycled), corresponds to the FSC and PEFCs requirement limits for use of the respective labels on products, such as "FSC Mix" and "PEFC certified". Recycled materials not covered by

⁴² Personal communication with Cecilia Halling Linder, Fiskeby Board AB (December 2020)

⁴³ https://www.eupia.org/wp-content/uploads/2024/03/20240313-EuPIA_Exclusion_Policy_for_Printing_Inks_and_Related_Products_-March-2024_6th-Edition-v1-1.pdf

FSC/PEFC's Chain of Custody certification, can also be used in the packaging. The requirement must be documented as purchased amount annually.

Renewable raw materials can have a potential to give better environmental impact than fossil alternatives, but it depends on many parameters such as type of crop, where it is cultivated, cultivation conditions, land use change, further processing of the renewables and waste. Converting forest to cropland can have a huge impact on climate change and biodiversity. So, the possible benefits of replacing fossil-based raw materials with renewable raw materials will vary much and depend on responsible farming/forestry practices.

The establishment of palm oil and soybean plantations has led to vast areas of deforestation and destruction of natural habitats, thereby driving the loss of biodiversity in some of the world's most precious places like the Amazon and Cerrado in Brazil and Borneo in Indonesia⁴⁴. Voluntary certification schemes for palm and soy are not yet considered good enough (by Nordic Ecolabelling) to protect against deforestation, and palm oil, soybean oil and soy flour are therefore banned as raw materials for bio-based polymers. This also applies to waste or residual product from the palm oil production such as palm Fatty Acid Distillate (PFAD) or Palm Oil Mill Effluent (POME).

Other renewable raw materials must be a) waste or residual products from i.e., agriculture, fishing, forestry or processing residual product defined in accordance with (EU) Renewable Energy Directive 2018/2001 or b) certified according to approved certifications schemes.

Nordic Ecolabelling has so far recognised Bonsucro EU and ISCC EU/Plus as valid certification schemes. The supplier of the bio-based polymer must have a valid chain of custody (CoC) certificate according to the standard by which the raw material is certified. Traceability must at least be ensured by mass balance. Book and claim systems are not accepted.

O21 Weight-Utility Ratio (WUR)

WUR is a measure of the amount of packaging used to deliver an amount of product with a certain benefit.

The exemptions from WUR calculation are:

- Packaging made from more than 80% post-consumer recycled (PCR)* raw material is exempted from the requirement.
- Products that are supplied in packaging that is part of a take-back system** for a product.

* *Post-consumer/commercial recycled material is defined in the requirement according to ISO 14021:2016:*

"Post-consumer/commercial" is defined as material generated by households or by commercial, industrial, and institutional facilities in their role as end-users of the product, which can no longer be used for its intended purpose. This includes returns of material from the distribution chain.

** *Take-back system refers to packaging that are taken back, washed and refilled. Packaging that is a part of a recycling system where the packaging is recycled into new plastic is not part of what here is called a take-back system.*

⁴⁴ <https://www.worldwildlife.org/stories/deforestation-fronts> (May 2024)

The calculation of WUR (grams of packaging/litre of in-use solution) is performed as follows:

$$WUR = \sum \left(\frac{2 \cdot W_i - 2.5 \cdot R_i}{D_i \cdot t_i} \right) \leq \text{limit value in Table 8}$$

W_i = Weight of primary packaging in grams, including closure, fitted dosing devices and similar + any refills (that are sold per original bottle) in grams including closures.

R_i = Weight (g) of recycled material (postconsumer) in the packaging component (i) in grams.

Packaging is considered postconsumer recycled if the raw materials are recovered following use by consumers. If the raw material is industrial waste from the material or packaging producer's own production, the material is not considered to be recycled.

D_i = No. of functional doses in the primary packaging component (i). For products that are sold pre-diluted, D = product volume (in no. of litres).

If the primary packaging is sold packaged together with a refill, D is calculated as the sum of the functional doses in both packs (just as V is the sum of the weight of both packs (see description of V)).

t_i = Reuse factor. This is 1 + the number of times the packaging component (i) is reused (through the sale of refills). $t = 1$ if the packaging component is not reused for the same function (disposable packaging).

$t > 1$ may only be used if it can be documented that the packaging is reused several times for the same purpose.

Table 8 WUR limit values

Product type	WUR limit (grams of packaging/litre of in-use solution)
Foam/spray products	175.0
Other RTU products	150.0
Concentrated cleaning products including wash polish/wax-and-wash products and facade and terrace cleaners	1.0
Mix-it-yourself RTU products (i.e., concentrated products for refill for RTU bottles which are always diluted at least 10 times by the user to the finished product) *	30.0

**Note that if the refill is dosed as a unit containing a water-soluble foil intended not to be removed before diluting, the foil must be part of the product formulation in the requirements dealing with CDV, environmental hazards and aNBO and anNBO. (O12-O14). If the product is not marketed together with a reusable packaging with contents, but if the label or other communication refers to a specific packaging, bottle or similar, which should be used for dilution, this is referred to as the reusable packaging. WUR for this reusable packaging is calculated as if the packaging were filled with finished product.*

† Declaration/documentation from the packaging manufacturer stating the type of material in the packaging components (e.g., closure (cap, foam/spray nozzle etc.), bottle and labels). Appendix 4 can be used.

† Calculation of weight-utility ratio (WUR) and required documentation on reuse of the packaging component. Nordic Ecolabelling's calculation sheet can be used and can be obtained from Nordic Ecolabelling's websites.

- ↑ Declaration from the packaging manufacturer about the proportion of recycled material, if recovered/recycled material is used. Appendix 4 can be used.
- ↑ If $t > 1$: Documentation in the form of sales statistics or similar showing how many refills are sold per original packaging.
- ↑ If the exemption is used:
 - Documentation that shows that packaging made of more than 80% post-consumer recycled (PCR) material (Appendix 4 can be used).
 - or
 - Documentation that shows is part of a take-back system for a product.

Background to requirement O21 Weight-Utility Ratio (WUR)

The purpose of the weight-utility ratio (WUR) is to reduce the amount of packaging and promote the use of recycled materials and refill options, thus helping to ensure a reduction in the unnecessary transport of packaging and air, and so lower CO₂ emissions. WUR is a measure of the amount of packaging used to deliver an amount of product with a certain benefit. This restriction promotes the use of concentrated products by relating the amount of packaging to the dose.

Nordic Ecolabelling has chosen to set a requirement for primary packaging in the cleaning product criteria for two reasons: There is little steerability of distribution packaging and it punishes small-scale manufacturers unnecessarily harshly. In addition, it is through optimising primary packaging that the greatest environmental gains can be made for products such as cleaning products.

Included in the primary packaging is the weight of the packaging in which the cleaning product is packed. This also includes labels, closures and any fitted dosing devices, etc.

The requirement level is 1.0 for concentrated products, 175 for foam/spray products and 150 for other ready-to-use products. In addition, a weighting factor of 2.5 in the WUR calculation promotes the use of recycled material in the packaging. The requirement level for the WUR calculation has been set based on Nordic Ecolabelling's experiences of the licensing work for both professional products and consumer products.

Nordic Ecolabelling values the requirement level for WUR as a means to exclude the most extravagant bottle designs, without preventing small bottles for concentrated products.

It is specified that $t = 1$ if there is no documentation that the packaging is reused multiple times. If $t > 1$ the manufacturer must be able to document this for example with sales figures for the number of refills in relation to the reusable packaging.

Manufacturers who can show that refills are sold in stores may also include the refills in their calculations. In such cases, however, Nordic Ecolabelling wishes to see the supporting documentation/marketing statistics.

The letter R in the equation stands for the amount of recycled material in the packaging.

R_i = Weight (g) of recycled material (postconsumer) in the packaging component (i) in grams.

The WUR requirement include an exemption for packaging that is made from more than 80% recycled material. The EU Ecolabel has introduced this in its criteria for Hard Surface Cleaning Products, and Nordic Ecolabelling believes it is an appropriate way to try to stimulate a high proportion of recycled packaging material.

Take-back system for a packaging is exempted since if packaging is recycled as such (taken back, washed and refilled) reduces the need for virgin materials and environmental impact of packaging significantly.

O22 Packaging for foam/spray products and mix-it-yourself RTU products

- a) Foam/spray products must not use a propellant.
- b) All foam/spray products must have a permanent aerosol-reducing nozzle.
Alternatively, other aerosol-reducing devices such as aerosol-reducing formulation in the form of a viscous product are acceptable if test results are provided showing that the amount of inhalable, thoracic, and respirable aerosol is at least as low for the test product in its ordinary packaging compared to a Nordic Swan labelled reference product with a mesh foamer. The chemical composition and physical properties of the reference product must be equivalent to the cleaning product that is the subject of the licence application. The test must be performed according to "Bestemmelse av inhalerbar, torakal og respirabel aerosolfraksjon" as described in Olsen et al. (2017)⁴⁵. The test must be performed by a laboratory that meets the requirements concerning test laboratories in Appendix 3.
- c) Packaging for mix-it-yourself RTU products (i.e., concentrated products for refill for which are always diluted at least 10 times by the user to the finished product) must be designed so that the user does not come in contact with the product when diluting.
- d) For mix-it-yourself RTU products: If it is communicated on the label or in any other way that the product can be used in a foam/spray bottle, the following text must be included: "The foam/spray bottle must have an aerosol-reducing nozzle to protect the user's health".

↑ a: Documentation that propellant is not used, e.g. description of the packaging

↑ b: Declaration/documentation from the manufacturer of the foam/spray trigger, stating that it has a permanent aerosol-reducing nozzle.

Alternatively

↑ b: Description of the aerosol-reducing device and a report from the test of the aerosol reducing device in comparison with a reference product with mesh foamer if relevant.

↑ b: Documentation regarding the test laboratory in accordance with Appendix 3.

↑ c: Description of the packaging design showing that the user is not in contact with the product when diluting. Documentation in the form of a technical description and user instructions showing how the user avoids contact with the product.

↑ d: Label showing the text "The foam/spray bottle must have an aerosol-reducing nozzle to protect the user's health".

⁴⁵ Rengjøringsmidler i sprayform – Frigir de helseskadelige stoffer til arbeidsatmosfæren som kan inhaleres til lungene? Olsen, R., *et al.* (2017). STAMI-rapport nr. 2. ISSN nr. 1502-0932. <https://stami.brage.unit.no/stami-xmloi/handle/11250/2433134>

Background to requirement O22 Packaging for foam/spray products and mix-it-yourself RTU products

Requirement a) Cleaning foam/sprays with propellant differ from trigger foam/sprays in that the container is metal and the products contain propellants that are often flammable.

Requirement b) Products sold in foam/spray bottles have a different exposure scenario to products that are diluted in water before use and applied with a cloth or mop.

Use of a foam/spray forms a mist, which the user may breathe in. This increases the risk that the user will be exposed to allergens or other substances that pose health hazards. Several studies suggest a link between cleaning sprays and asthma in adults.⁴⁶ The amount of health-related aerosol fractions – inhalable, thoracic and respirable – in the spray mist can be significantly reduced by using a foaming nozzle.⁴⁷

In the requirement there are two alternatives to show that the product does not produce large amounts of aerosol. The first alternative is that the product has a permanently mounted aerosol-reducing or foam nozzle on the packaging. The second alternative is that the producer reduces the aerosols by other means, for example by a viscous product. This can be approved if a test can show that the test product in original packaging has as low or lower amounts of inhalable, thoracic and respirable aerosol compared to a reference product with a mesh foamer. The reference product must be a Nordic Swan labelled product with for example mesh foamer.

The test must be performed in accordance with “Bestemmelse av inhalerbar, torakal og respirabel aerosolfraksjon” as described in Olsen et al. (2017),⁴⁸ The test must be performed at a laboratory fulfilling the requirements stated in section 1A in Appendix 3.

Requirement c) To minimize the risk to the user of the mix-it-yourself RTU products, it is required that the package must be shaped so that the user does not enter contact with the concentrate itself upon dilution. There are several ways to do that. For example, they may be enclosed tablets / pouches or ampoules of liquid detergent to be screwed into the cap of the reusable bottle.

5.7 Licence maintenance

The purpose of the licence maintenance is to ensure that fundamental quality assurance is dealt with appropriately.

⁴⁶ Siracusa A, et al. Asthma and exposure to cleaning products – a European Academy of Allergy and Clinical Immunology task force consensus statement. *Allergy* 2013;68: 1532–1545.

⁴⁷ Rengjøringsmidler i sprayform – Frigir de helseskadelige stoffer til arbeidsatmosfæren som kan inhaleres til lungene? Olsen, R., et al. (2017). STAMI report no. 2. ISSN no. 1502-0932. <https://stami.no/wp-content/uploads/2017/02/STAMI-rapport20nr.202202017.pdf>

⁴⁸ Rengjøringsmidler i sprayform – Frigir de helseskadelige stoffer til arbeidsatmosfæren som kan inhaleres til lungene? Olsen, R., et al. (2017). STAMI-rapport nr. 2. ISSN nr. 1502-0932. <https://stami.no/wp-content/uploads/2017/02/STAMI-rapport20nr.202202017.pdf>

O23 Customer complaints

The licensee must guarantee that the quality of the Nordic Swan Ecolabel product or service does not deteriorate during the validity period of the licence. Therefore, the licensee must keep an archive over customer complaints.

Note that the original routine for customer complaint handling must be in one Nordic language or in English.

↑ Upload your company's routine for handling and archiving customer complaints

Background to requirement O23 Customer complaints

Nordic Ecolabelling requires that your company has implemented a customer complaint handling system. To document your company's customer complaint handling system, you must upload your company's routine describing these activities. The routine should be dated and signed and will normally be part of your company's quality management system.

If your company does not have a routine for customer complaint handling, it is possible to upload a description of how your company perform these activities. During the on-site visit, Nordic Ecolabelling will check that the customer complaint handling is implemented in your company as described. The customer complaints archive will also be checked during the visit.

O24 Traceability

The licensee must be able to trace the Nordic Swan Ecolabel products in the production. A manufactured / sold product should be able to trace back to the occasion (time and date) and the location (specific factory) and, in relevant cases, also which machine / production line where it was produced. In addition, it should be possible to connect the product with the actual raw material used.

You can upload your company's routine or a description of the actions to ensure traceability in your company.

↑ Upload your routine or a description

Background to requirement O24 Traceability

Nordic Ecolabelling requires that your company has implemented a traceability system. To document your company's product traceability, you must upload your company's routine describing these activities. The routine should be dated and signed and will normally be part of your company's quality management system.

If your company does not have a routine for product traceability, it is possible to upload a description of how your company perform these activities. During the on-site visit, Nordic Ecolabelling will check that the product traceability is implemented in your company as described.

6 Environmental impact of cleaning products

The purpose of this section is to clarify which environmental parameters, at which stages of the product lifecycle, the Nordic Ecolabel places requirements on for this specific product group and why.

The relevant environmental impacts found in the life cycle of cleaning products are set out in a MECO scheme below. A MECO describes the key areas that have impact on the environment and health throughout the life cycle of the product – including consumption of materials/resources (M), energy (E), chemicals (C) and other impact areas (O). Nordic Ecolabelling sets requirements concerning the topics and processes in the life cycle that have a high environmental impact – also called hotspots.

Based on the hotspots identified, an RPS tool is used to identify where ecolabelling can have the greatest effect. R represents the environmental Relevance, P is the Potential to reduce the environmental impact, and S is the Steerability on how compliance with a requirement can be documented and followed up. The criteria contain requirements in those areas in the life cycle that have been found to have high RPS, since there is potential to achieve positive environmental gains.

When assessing the requirements to be set, there is a focus on setting requirements within the Nordic Swan Ecolabel's environmental strategic goals. The areas are biodiversity, climate and energy, chemicals, and resource use/resource efficiency (circular economy).

Based on these analyses, Nordic Ecolabelling recognizes a good potential to reduce important environmental impacts of cleaning products by setting requirements for:

- raw material sourcing - including requirements for plant materials for production of chemical raw materials (especially palm oil)
- ingoing substances - addressing exposure of chemicals harmful to health
- ecotoxicity and biodegradability - addressing impacts to aquatic organisms and ecosystems
- packaging - to address plastic and other packaging raw materials and disposal
- performance - to address chemical and packaging resource use and disposal (avoiding ineffective products that lead to overdosing, a problem that wastes both raw materials and packaging while increasing air and water pollution)

Material, Energy, Chemicals, Other (MECO) scheme

	Raw material	Production	Use	End of life	Transport
Material Extraction and resource loss	Extraction of oil, gas, metals, and minerals for non-renewable raw materials Agricultural production for renewable raw materials Water consumption		Water consumption in use (if applicable, e.g., for mixing concentrated products)	Loss of the material value if packaging is incinerated (higher impact) vs. recycled (lower impact)	
Energy (GWP = Global warming potential, LCA study from Koehler 2009)	Energy consumption to extract/cultivate and process raw materials for product and packaging (15-30% GWP in LCA - higher water content reduces raw chemical contribution but increases packaging contribution)	Energy consumption to produce product and packaging (ca 5% GWP in LCA for liquids; ca 10% for powder or solid products due to energy for drying)	Energy for heating water for product use (50-75% GWP in LCA, if applicable) Energy for transport from store to home by car (40-50% GWP in LCA for non-concentrated RTU products; otherwise <5%)	Energy from wastewater treatment and solid waste handling (5-20% GWP in LCA)	Energy use of transport vehicles (ca 5% in LCA)
Chemicals	Agricultural chemicals including pesticides and fertilizers Exposure to hazardous chemicals in the work environment or nearby communities	Exposure to hazardous chemicals in the work environment or nearby communities	Consumer and professional users' exposure to allergens and other hazardous chemicals Emission of VOCs during product use (if applicable)	Wastewater emissions of chemicals toxic to aquatic organisms Emissions of phosphorous compounds that cause eutrophication	Air pollution from transport vehicles
Other	Biodiversity and ecosystem impacts from resource extraction and agriculture Land right disputes and impacts on local and indigenous communities Raw material production competing with food production		Consumer and professional satisfaction influenced by product quality, effectivity, and shelf life Reduced wastage based on dosing instructions and design Reduction in accidents / improved child safety based on packaging design	Biodiversity and health impacts from hazardous chemicals from sewage sludge leaching to land and water Emissions of microplastics or nanomaterial (due to product's formula or using the product)	Particulate matter from transport vehicles

Relevance, Potential, Steerability (RPS) scheme

Life cycle stages	Area and assessment of R, P, S (high, medium or low)	Comments
Raw materials		
	Fossil oil for production of chemical raw materials R: High P: Low S: Low RPS: Low	R is high due to a large consumption of fossil-based raw materials and energy in production of chemicals. P+S are low, as there is low potential and steerability for minimizing the use of fossil resources for chemical raw materials, due to the limited availability of renewable alternatives for many raw materials. Also, a shift to renewable raw materials can lead to a burden shift concerning biodiversity (see next row).
	Plant materials (especially palm oil) for production of chemical raw materials R: High P: Medium S: High RPS: High	R is high due to non-sustainable extraction of renewable raw materials. P is medium. There is low potential and steerability for minimizing the use of palm oil resources for chemical raw materials, since palm oil is the origin of most renewable raw materials, and the availability of alternative renewable raw materials is currently low. Avoiding palm oil-based ingredients is impossible for consumers since origin of ingredients information is not provided. However, there is a high potential for minimizing the negative impacts of extraction of palm oil and other renewables. S is high as requirements for RSPO certified palm oil origin can be set together with a supply chain policy and code of conduct.
	Plastic and other packaging raw materials R: High P: High S: High RPS: High	R is high due to a large consumption of energy and fossil resources. P is high as the use of too much packaging and packaging that is not compatible with recycling is widespread, so there is a potential to limit the total amount of packaging and to promote design for recycling. There is also a potential for lowering the amount of packaging by requiring refills for RTU products. S is high as requirements can be set for the total amount of packaging, the type of packaging and the combination of packaging materials that enables emptying and recycling. The steerability for required refills is low, because it is difficult for the license holder to control the scale of refill sales in stores, but other refill solutions as home delivery in reusable containers can be an option.
	Water and electrical consumption for production of raw materials R: High P: Medium S: Low RPS: Medium	R is high due to consumption of energy and fossil resources. P is medium as there is a potential to limit the use of energy to lower emissions from production. S is low as the production facilities requires a certain amount of water and energy use to run, and Nordic Ecolabelling currently lacks information about how this can be reduced or possibilities to induce changes.
Production/distribution		
	Water and electrical consumption for production of the cleaning product R: Medium P: Medium S: Low	R is medium due to consumption of water, energy, and fossil resources. We expect that water and electrical consumption is higher as raw materials are processed into intermediate ingredients earlier in the supply chain and lower in final production, but this can vary. P is medium as there is a potential to limit the use of water and of energy to lower emissions from production.

	RPS: Medium	S is low as the production facilities requires a certain amount of water and energy use to run, and Nordic Ecolabelling currently lacks information about how and to what extent this can be reduced.
	Water and electrical consumption for production of packaging R: High P: Medium S: Low RPS: Medium	R is high due to consumption of water, energy, and fossil resources to produce packaging. P is medium as there is a potential to limit the use of water and of energy to lower emissions from production. S is low as the production facilities requires a certain amount of water and energy use to run, and Nordic Ecolabelling currently lacks information about how and to what extent this can be reduced.
	Transportation from production to retail and to consumers R: Medium P: High S: Low PRS: Medium	R is medium due to consumption of fossil resources for fuel and particulate matter and emissions from distribution vehicles P is high as there is a potential to limit the use on non-renewable energy and to lower emissions from trucks, maybe also to organize logistics better. Product packaging and concentration can also affect transportation needs. S is low as distribution is carried out by external companies transporting both Nordic Swan Ecolabelled and non-Nordic Swan Ecolabelled products. Changing transportation types can require significant resources. However, requirements on weight-to-utility ratio for packaging and product concentration levels can be set.
Use phase		
	Water and electrical consumption when using the cleaning product R: High P: Medium S: Low RPS: Medium	R is high due to the use of water and consumption of energy and fossil resources for heating of water when using non-RTU products. P is medium as the use of water can be minimized and the temperature of the water can be lowered. S is low as energy resources used for heating of water is not often controlled by the users. Instructions/recommendations for use can help, but the steerability over users to limit water use or reduce water temperature is low.
	Exposure of chemicals harmful to health R: High P: High S: High RPS: High	R is high due to consumers being exposed to chemicals that are harmful to health P is high as there is a potential to limit or exclude ingredients with negative impact on health, like allergens, CMR substances, endocrine disruptors. Special requirements for foam/spray products, which can be inhaled, can be set. For non-RTU products there is also a potential to limit overdosing and thereby minimizing the exposure. High efficacy can also help to reduce overdosing. S is high as requirements to prohibit or strongly limit problematic substances can be set. The amount of product used can be limited by clear instructions for use and foam/spray nozzles that reduce the formation of inhalable aerosols. Requirements for efficacy can be set.
End of life		
	Water and electrical consumption for wastewater treatment R: Medium P: Low S: Low RPS: Low	R is medium due to consumption of energy and fossil resources. P is low as there is no potential for the licensees to limit the use on energy. S is low as the sewage treatment plants are run by the public sector and hence difficult to affect by the producer of cleaning products.
	Packaging disposal (incineration, reuse or recycling)	R is medium due to the loss of fossil resources, if the packaging is not recycled.

	<p>R: Medium P: High S: High RPS: High</p>	<p>P is high as the use of too much packaging and non-compatible packaging components is widespread, so there is a potential to limit the total amount of packaging and to promote design for recycling. S is high as requirements can be set for the total amount of packaging, the type of packaging and the combination of packaging materials that enables emptying and recycling.</p>
	<p>Product emissions from use (degradability and toxicity to aquatic organisms) R: High P: High S: High RPS: High</p>	<p>R is high as cleaning products and their ingredients can all end up in the environment affecting biodiversity, even though they might take different routes. Cleaning products therefore risk harming both aquatic organism and the ecosystem, depending on the intrinsic properties of the ingredients. P is high as there is a potential to reduce the content of environmentally hazardous ingredients like, substances toxic to aquatic organism, non-degradable substances, microplastics, endocrine disruptors etc. S is high as requirements to prohibit or strongly limit problematic substances can be set.</p>

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7 Future criteria generation

The following points can be considered for the next revision:

- Create a requirement for raw material feedstocks and production with lower life-cycle environmental impacts
- Add additional hazard classifications for restriction in ingoing substances, for example: hazardous to the environment category acute 1, specific target organ toxicity single exposure category 1, acute toxicity category 1 and 2, skin corrosion category 1A, aspiration hazard category 1
- Exclude all phosphorous-containing substances
- Exclude all biocidal active substances, except for preservatives, especially if there is risk of discharge to the environment
- Revise performance tests to exclude the possibility that the reference product is produced by the applicant
- Revise packaging requirements and add a requirement for share of recycled material

8 Criteria version history

Nordic Ecolabelling adopted version 7.0 of the criteria for cleaning products XX XX 2026. The criteria are valid until XX XX.

9 How to apply and regulations for the Nordic Ecolabelling

Application and costs

For information about the application process and fees for this product group, please refer to the respective national website. For contact information see the beginning of this document.

The application consists of an application form/web form and documentation showing that the requirements are fulfilled.

Licence validity

The Nordic Swan Ecolabel licence is valid providing the criteria are fulfilled and until the criteria expire. The validity period of the criteria may be prolonged or adjusted, in which case the licence is automatically prolonged, and the licensee informed.

Revised criteria shall be published at least one year prior to the expiry of the present criteria. The licensee is then offered the opportunity to renew their licence.

Responsibility for Compliance with Applicable Legislation

When applying for the Nordic Swan Ecolabel, the applicant/licensee confirms compliance with all current regulatory requirements related to both the exterior and interior environment in connection with the production and handling of the product(s) covered by the application. Furthermore, the applicant declares that all applicable regulatory requirements within the Nordic region are met for the product(s). Compliance with these regulations is a prerequisite for obtaining a license.

On-site inspection

In connection with handling of the application, Nordic Ecolabelling normally performs on-site inspection visit(s) to ensure adherence to the requirements. For such an inspection, data used for calculations, original copies of submitted certificates, test records, purchase statistics, and similar documents that support the application must be available for examination.

Queries

Please contact Nordic Ecolabelling if you have any queries or require further information. See contact info in the beginning of this document. Further information and assistance (such as calculation sheets or electronic application help) is available. Visit the relevant national website for further information.

Random samples may also be taken in-store and analysed by an independent laboratory. If the requirements are not met, Nordic Ecolabelling may charge the analysis costs to the licensee.

Regulations for the Nordic Ecolabelling of products

When the Nordic Swan Ecolabel is used on products the licence number shall be included.

More information on graphical guidelines, regulations and fees can be found at www.nordic-swan-ecolabel.org/regulations

Appendix 1 Declaration from the manufacturer of the cleaning product

To be submitted with an application for a Nordic Swan Ecolabel licence of cleaning products.

This declaration is based on the best available knowledge at the time of the application, including test results and/or declarations from raw material manufacturers. It is subject to change if new information or scientific findings become available. In such cases, an updated declaration must be submitted.

Product name:	
Product usage areas (all-purpose cleaner, window cleaner, WC-cleaner, etc):	
Product format (liquid, powder, tablet, water-soluble sheet, etc.)	
Type of product (please see descriptions of these subcategories under product group definition in section 2 & 2.1) Mark all that are relevant (i.e., mark "RTU, consumer" and "RTU, professional" if both apply):	
Concentrated, consumer: Consumer products that require dilution with water prior to use.	<input type="checkbox"/>
RTU, consumer: Consumer products that are pre-diluted and ready for use straight from the package including foam/spray products.	<input type="checkbox"/>
Concentrated, professional: Professional products that require dilution with water prior to use.	<input type="checkbox"/>
RTU, professional: Professional products that are pre-diluted and ready for use including foam/spray products.	<input type="checkbox"/>
RTU window cleaner: Consumer and professional window and glass cleaners that are pre-diluted and ready for use straight from the package including foam/spray products.	<input type="checkbox"/>
Outdoor surface cleaners: Consumer and professional cleaners that are for use outdoors. These are typically concentrated products for large surfaces.	<input type="checkbox"/>
Product dilution (see also Definitions table):	
Concentrate (requires dilution)	<input type="checkbox"/>
Ready-to-use (pre-diluted)	<input type="checkbox"/>
Mix-it-yourself RTU (e.g., tablet for refill bottle)	<input type="checkbox"/>
Other or combination of the above (explain) _____	<input type="checkbox"/>
Product contains micro-organisms? (check box if "yes")	
<input type="checkbox"/>	
Approximately what percentage of total product sales are to the professional market (estimate based on sales data)?	
<input type="text"/>	

Ingoing substances and impurities are defined below, unless stated otherwise in the requirements.

- **Ingoing substances:** All substances* in the Nordic Swan Ecolabelled/chemical product regardless of amount, including additives (e.g. preservatives and stabilizers) from the raw materials. Substances released from ingoing substances (e.g. biocidal active substances generated by preservatives, such as formaldehyde) are also regarded as ingoing substances. Foil that is not removed before use of the product, and that is water soluble is considered as part of the formulation/recipe.

**N.B. the difference from the definition of substances in the REACH Regulation (EC) No 1907/2006. Whereas a REACH substance encompasses a chemical element or compound as well as its stabilising additives and process impurities, a substance here refers to each of the constituents separately. The constituents of a UVCB substance (Unknown or Variable composition, Complex reaction products or of Biological materials) are also regarded separately, and all known constituents must be regarded.*

- **Impurities:** Trace levels of pollutants, contaminants and residues from production, including production of raw materials, that remain in the chemical product in concentrations ≤ 100 ppm (≤ 0.0100 w%). For formaldehyde other than as a biocidal active substance and for arylamine, the corresponding concentration is ≤ 50 ppm (≤ 0.0050 w%).

Examples of impurities: Background environmental pollutants from feedstock, as well as contaminants and residues from production such as reactants (incl. monomers), reagents, catalysts, by-products, scavengers, detergents for production equipment, carry-over from other or previous production lines.

- **Impurities in the raw materials** in concentrations $\geq 10\ 000$ ppm (≥ 1.0000 w%) are always regarded as ingoing substances, regardless of the concentration in the Nordic Swan Ecolabelled/chemical product.

Additional information concerning definitions of ingoing substances and impurities

Limit values: The limit for excluded ingoing substances is 0 ppm (unless otherwise stated), while there's a specific defined limit for impurities. The impurity limit applies separately to each individual excluded substance, from each individual raw material. Concentrations of different impurities with the same excluded classification or substance group characteristics shall not be summed up to meet the impurity limit in the labelled product. Also, concentrations of an individual impurity, originating from different raw materials, shall not be summed.

UVCB substances: UVCB substances (Unknown or Variable composition, Complex reaction products or of Biological materials) have a composition of constituents that is not completely known or is variable from time to time. For UVCB substances, all constituents that are known must be declared in the Nordic Swan Ecolabel raw material appendix based on the best available knowledge. All constituents are considered individually and are subject to the chemical requirements, including for instance those on excluded substances and excluded classifications.

However, in the requirements O12 Long-term environmental effects, O13 Critical dilution volume (CDV), and O14 Content of substances which are not aerobically and/or anaerobically biodegradable, the UVCB substance can be considered as one ingoing substance and placed in a single row in the calculation sheet. If the UVCB substance can be assigned a DID-number, the data on the DID-list must be used. N.B. that for UVCBs that are perfumes, a specific approach applies regarding the requirement on environmentally hazardous substances, as described below.

Perfumes: Perfumes constitute a group of complex raw materials that are often, but not always, UVCBs. All perfume constituents must be declared the same way as described for UVCBs above. A perfume can also be placed in one row in the calculation sheet. However, for requirement O12 Long-term environment effects, a perfume must not be regarded as one ingoing substance, irrespective of whether the perfume is an UVCB or not. Instead, each constituent of the perfume mixture must be regarded in a calculation of the weighted sum of substances classified H410, H411 and H412. For perfumes, specific toxicity and biodegradability data can be used. If data is not available, the data on DID 2549 must be used.

Instructions: Provide information about the cleaning product in the tables below

O4 Certified raw materials from oil palms	Yes	No
<p>Mark your answers with an X in the relevant column.</p> <p>If the answer to all the questions below is No, put an X in the column to the right.</p>		
<p>Does the product contain palm oil or palm kernel oil?</p> <p>This includes by-products, residues, and waste fractions from palm oil industries, such as palm fatty acid distillate and palm effluent sludge.</p> <p>If yes, is this palm oil/palm kernel oil RSPO certified?</p> <p>What is the traceability level?</p> <p>Mark below and state the certificate/licence number:</p>		
No traceability		
Identity Preserved		
Segregated		
Mass Balance		

O5 Classification of ingoing substances		
Does the product contain ingoing substances or impurities classified with any of the hazard codes below, including all classification variants (e.g. H350 also includes H350i)? If the answer to all the classifications below is No, put an X in the column to the right.	Yes	No
H420 – Ozone		
H372 – STOT RE 1		
H334 – Resp. Sens. 1, 1A or 1B		
H317 – Skin Sens. 1, 1A or 1B		
H350 – Carc. 1A or 1B		
H351 – Carc. 2		
H340 – Muta. 1A or 1B		
H341 – Muta. 2		
H360 – Repr. 1A or 1B		
H361 – Repr 2		
H362 – Lact.		
EUH380 – ED HH 1		
EUH381 – ED HH 2		
EUH430 – ED ENV 1		
EUH431 – ED ENV 2		
EUH440 – PBT		
EUH441 – vPvB		
EUH450 – PMT		
EUH451 – vPvM		
O6 Excluded substances		
Does the product contain any of the following substances?	Yes	No
Alkylphenols (AP) (e.g. butylated hydroxy anisole (BHA, CAS No. 25013-16-5), butylated hydroxytoluene (BHT, CAS No. 128-37-0), alkylphenol ethoxylates (APEOs) and other alkylphenol derivates (APD))		
Amphoacetates derivatives of N-hydroxyethyl imidazolines (EC No. 271-792-5, 271-794-6, 931-291-0,		
Aromatic solvents and carriers, incl. chlorotoluenes, chlorophenols and chlorobenzenes Solvents are defined in Directive 1999/13/EC: Organic substances with a vapour pressure of at least 0.01 kPa at 20 °C		
Benzalkonium chloride (CAS No. 8001-54-5)		
Bisphenols and bisphenol derivatives, defined as 34 bisphenols identified by ECHA for further EU regulatory risk management due to known or potential endocrine disruption or reproductive toxicity. EC/List No. 201-245-8 (BPA), 201-025-1 (BPB), 401-720-1 (4,4'-Isobutylethylidenediphenol), 216-036-7 (BPAF) and its 8 salts (278-305-5; 425-060-9; 443-330-4; 468-740-0; 469-080-6; 479-100-5; 943-265-6; 947-368-7), 201-250-5 (BPS), 201-240-0 (BPC), 204-279-1 (TBMD), 201-618-5 (6,6'-di-tert-butyl-4,4'-butylidenedi-m-cresol), 242-895-2, 248-607-1, 405-520-5 (D8), 217-121-1 (DAB), 227-033-5 (TMBPA), 210-658-2 (BPF), 411-570-9, 277-962-5 (contains BPS), 500-086-4 (contains BPA), 500-263-6 (contains BPA), 500-607-5 (contains BPA), 701-362-9, 904-653-0 (contains BPA), 908-912-9 (contains BPF), 926-571-4 (contains BPA), 931-252-8 (contains BPA), 941-992-3 (contains BPS), 943-503-9 (contains BPA)		
Boric acid, borates, and perborates		
Endocrine disruptors, potential or identified, listed in "Endocrine Disruptor Lists" List I, II or III		

Ethylenediamine tetraacetate (EDTA, CAS No. 60-00-4) and its salts and Diethylenetriamine pentaacetate (DTPA, CAS No. 67-43-6) and its salts		
Halogenated organic compounds		
Isothiazolinones (e.g. methylisothiazolinone (MIT), CAS No. 2682-20-4, metylchloroisothiazolinone (CMIT), C(M)IT/MIT (3:1), CAS No. 55965-84-9, CAS No. 26172-55-4, benzisothiazolinone (BIT), CAS No. 2634-33-5, octylisothiazolinone (OIT), CAS No. 26530-20-1 and dichlorooctylisothiazolinone (DCOIT), CAS No. 64359-81-5)		
Linear alkylbenzene sulphonates (LAS)		
Methylidibromo glutaronitrile (MG), CAS no. 35691-65-7		
Nanomaterials/-particles Defined according to the EU Commission Recommendation on the Definition of Nanomaterial (2022/C 229/01): 'Nanomaterial' means a natural, incidental or manufactured material consisting of solid particles that are present, either on their own or as identifiable constituent particles in aggregates or agglomerates, and where 50 % or more of these particles in the number-based size distribution fulfil at least one of the following conditions: <ul style="list-style-type: none"> a) one or more external dimensions of the particle are in the size range 1 nm to 100 nm b) the particle has an elongated shape, such as a rod, fibre or tube, where two external dimensions are smaller than 1 nm and the other dimension is larger than 100 nm c) the particle has a plate-like shape, where one external dimension is smaller than 1 nm and the other dimensions are larger than 100 nm 		
Nitro musks and polycyclic musk compounds		
NTA (nitrilo triacetic acid, CAS-no. 139-13-9), and its salts		
Organic chlorine compounds, hypochlorites and hypochlorous acid		
PBT and vPvB as defined in REACH Annex XIII, including those under ECHA PBT assessment https://echa.europa.eu/da/pbt		
Per- and polyfluoroalkyl substances (PFAS) PFAS is defined as any substance that contains at least one fully fluorinated methyl (CF ₃ -) or methylene (-CF ₂ -) carbon atom (without any H/Cl/Br/I attached to it)		
Phosphate, phosphonate, phosphonic acid and phosphoric acid		
Phthalates		
Quaternary ammonium compounds that are not readily aerobic biodegradable such as DTDMAC(CAS No. 61789-80-8), DSDMAC (CAS No. 107-64-2), DHTDMAC (CAS No. 61789-72-8) and DADMAC (CAS No. 7398-69-8)		
Siloxanes		
Silver, colloidal silver, or nanosilver		
Substances of Very High Concern on the REACH Candidate list of SVHC substances https://www.echa.europa.eu/candidate-list-table		
Volatile organic compounds (VOC)		

O7 Microplastics	Yes	No
Does the product contain polymers?		
<p>If yes, does the product contain polymers that are defined as microplastics*?</p> <p>If the product contains polymers that are not defined as microplastics*, please state how the polymers are excluded from the definition (please include test methods and results if relevant):</p> <hr/> <hr/> <p>* Definition: Microplastics are synthetic polymer microparticles as defined in REACH Regulation ((EC) No 1907/2006), Annex XVII, Entry no. 78: Synthetic polymer microparticles: polymers that are solid, and which fulfil both of the following conditions:</p> <p>a) are contained in particles and constitute at least 1% by weight of those particles; or build a continuous surface coating on particles.</p> <p>b) at least 1% by weight of the particles referred to in point (a) fulfil either of the following conditions:</p> <p>(i) all dimensions of the particles are equal to or less than 5 mm.</p> <p>(ii) the length of the particles is equal to or less than 15 mm and their length to diameter ratio is greater than 3.</p> <p>The following polymers are excluded from this designation:</p> <p>a) polymers that are the result of a polymerisation process that has taken place in nature, independently of the process through which they have been extracted, which are not chemically modified substances.</p> <p>b) polymers that are biodegradable as proved in accordance with Appendix 15 [to REACH, Regulation (EC) No 1907/2006].</p> <p>c) polymers that have a solubility greater than 2 g/L as proved in accordance with Appendix 16 [to REACH, Regulation (EC) No 1907/2006].</p> <p>d) polymers that do not contain carbon atoms in their chemical structure.</p> <p><i>N.B. The following "Conditions of restriction" paragraphs apply: 1 (concentration limit in mixtures), 2 (definitions), 3 (particle size limits). The remaining points do not apply, e.g. 4 (Paragraph 1 shall not apply to the placing on the market of:), e.g. 4(a) "synthetic polymer microparticles, as substances on their own or in mixtures, for use at industrial sites", 5 (derogations), e.g. 5 (b) "synthetic polymer microparticles the physical properties of which are permanently modified during intended end use in such a way that the polymer no longer falls within the scope of this entry".</i></p>		
O9 Fragrances	Yes	No
Does the product contain fragrances (incl. plant extracts)?		
If "yes," please answer the following questions about fragrances:		
Have fragrances been added in line with IFRA guidelines? (IFRA, International Fragrance Association, www.ifraorg.org/)		
Does the fragrance contain BHT? (see O6)		
Does the product contain fragrance allergens that are judged to be sensitising with the hazard statement H317 and/or H334, or which are listed in Annex III of the Cosmetic Regulation? If yes, please send in perfume specifications.		
Does the product contain the fragrance allergens oak moss extract (<i>Evernia prunastri</i> , CAS No. 90028-68-5), tree moss extract (<i>Evernia furfuracea</i> , CAS No. 90028-67-4) or HICC (CAS No. 31906-04-4)?		
O10 Preservatives	Yes	No
Does the product contain preservatives?		
If yes, please state name and log Kow/BCF: _____		

O12 Long-term environmental effects	Yes	No
<p>Does the product contain substances classified as environmentally hazardous with H410, H411 and H412?</p> <p>If yes, please state the amount (% by weight) per classification, and for H410 also state the M-factor:</p> <hr/>		
O17-O22 Packaging requirements	Yes	No
Do all parts of the packaging meet requirements O17-O22?		
<p>If the dispensing system contains small parts of materials other than PE, PP or PET:</p> <p>Is the dispensing system used on a PET bottle?</p> <p>If yes, do all small parts have a density < 1.0 g/cm³?</p>		
For labels on PET containers and/or fold-out labels of different material than the packaging: Does the label cover > 60% of the packaging surface? (O18)		
<p>For packaging other than flexible plastic pouches and cardboard packaging for liquid products:</p> <p>Is there any direct print on the container except for date codes, batch codes and UFI (Unique Formula Identifier)?</p>		
For cardboard packaging for liquid products: Are any labels added, other than removable covers/labels on the closure added to indicate that the product is not a food item?		
<p>Are label(s) printed internally at the production site or by an external printing company (other than the label supplier)?</p> <p>If yes, is the printing ink used for the plastic packaging compliant with EuPIA exclusion policy*?</p> <p>*https://www.eupia.org/wp-content/uploads/2024/03/20240313-EuPIA_Exclusion_Policy_for_Printing_Inks_and_Related_Products_-March-2024_6th-Edition-v1-1.pdf</p>		

If the answer to any of the questions in O5-O12 is Yes, please provide the following information for each relevant substance: CAS No. (where possible), chemical name, concentration (in ppm, % by weight or mg/kg). Also state whether the substance is present as an ingoing substance or impurity.

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If the product composition changes, a new declaration confirming compliance with the requirements must be submitted to Nordic Ecolabelling.

Place and date	Company name
Responsible person	Signature of responsible person
Telephone	Email

Appendix 2 Declaration from the manufacturer/supplier of the raw material to the cleaning product

To be used with an application for a licence for the Nordic Ecolabelling of cleaning products.
To be submitted with an application for a Nordic Swan Ecolabel licence.

This declaration is based on the best available knowledge at the time of the application, including test results. If new information or scientific findings become available, please inform Nordic Ecolabelling and submit an updated declaration. For suppliers: If you do not have knowledge about the complete composition of the raw material/ingredient, you are obliged to obtain this information from the manufacturer.

Manufacturer/supplier:
Trade name of the raw material:

Ingoing substances and impurities are defined below, unless stated otherwise in the requirements.

- **Ingoing substances:** All substances* in the Nordic Swan Ecolabelled/chemical product regardless of amount, including additives (e.g. preservatives and stabilizers) from the raw materials. Substances released from ingoing substances (e.g. biocidal active substances generated by preservatives, such as formaldehyde) are also regarded as ingoing substances.

**N.B. the difference from the definition of substances in the REACH Regulation (EC) No 1907/2006. Whereas a REACH substance encompasses a chemical element or compound as well as its stabilising additives and process impurities, a substance here refers to each of the constituents separately. The constituents of a UVCB substance (Unknown or Variable composition, Complex reaction products or of Biological materials) are also regarded separately, and all known constituents must be regarded.*

- **Impurities:** Trace levels of pollutants, contaminants and residues from production, incl. production of raw materials, that remain in the chemical product in concentrations ≤ 100 ppm (≤ 0.0100 w%). For formaldehyde other than as a biocidal active substance and for arylamine, the corresponding concentration is ≤ 50 ppm (≤ 0.0050 w%).

Examples of impurities: Background environmental pollutants from feedstock, as well as contaminants and residues from production such as reactants (incl. monomers), reagents, catalysts, by-products, scavengers, detergents for production equipment, carry-over from other or previous production lines.

- **Impurities in the raw materials** in concentrations $\geq 10\ 000$ ppm (≥ 1.0000 w%) are always regarded as ingoing substances, regardless of the concentration in the Nordic Swan Ecolabelled/chemical product.

Additional information concerning definitions of ingoing substances and impurities

Limit values: The limit for excluded ingoing substances is 0 ppm (unless otherwise stated), while there's a specific defined limit for impurities. The impurity limit applies separately to each individual excluded substance, from each individual raw material. Concentrations of different impurities with the same excluded classification or substance group characteristics shall not be summed up to meet the impurity limit in the labelled product. Also, concentrations of an individual impurity, originating from different raw materials, shall not be summed.

UVCB substances: UVCB substances (Unknown or Variable composition, Complex reaction products or of Biological materials) have a composition of constituents that is not completely known or is variable from time to time. For UVCB substances, all constituents that are known must be declared in the Nordic Swan Ecolabel raw material appendix based on the best available knowledge. All constituents are considered individually and are subject to the chemical requirements, including for instance those on excluded substances and excluded classifications.

However, in the requirements O12 Long-term environmental effects, O13 Critical dilution volume (CDV) and O14 Content of substances which are not aerobically and/or anaerobically biodegradable, the UVCB substance can be considered as one ingoing substance and placed in a single row in the calculation sheet. If the UVCB substance can be assigned a DID-number, the data on the DID-list must be used. N.B. that for UVCBs that are perfumes, a specific approach applies regarding the requirement on environmentally hazardous substances, as described below.

Perfumes: Perfumes constitute a group of complex raw materials that are often, but not always, UVCBs. All perfume constituents must be declared the same way as described for UVCBs above. A perfume can also be placed in one row in the calculation sheet. However, for requirement O12 Long-term environment effects, a perfume must not be regarded as one ingoing substance, irrespective of whether the perfume is an UVCB or not. Instead, each constituent of the perfume mixture must be regarded in a calculation of the weighted sum of substances classified H410, H411 and H412. For perfumes, specific toxicity and biodegradability data can be used. If data is not available, the data on DID 2549 must be used.

Instructions:

Please list the ingoing substances in the raw material in the table below and indicate 'yes' or 'no' as to whether each substance is regarded as a UVCB substance.

If the raw material contains impurities that are listed under excluded substances or has any of the classifications mentioned in this appendix, write the amount in the box at the end of the appendix. The manufacturer of the Nordic Swan Ecolabelled product is responsible for calculating compliance with the requirements of the criteria.

Name of raw material ingredient	Chemical name	CAS No.	Amount in weight %	Function of the raw material/ ingredient	Suggested DID No.	UVCB substance? State Yes/No

Please note that:

The DID-list (Detergents Ingredients Database) is available on the Nordic Ecolabelling websites.

Substances defined as surfactants according to the Detergent Regulation (EC) No 648/2004, must always be reported with the function "surfactant."

The information provided in this declaration is shared internally with the Nordic Ecolabelling certification personnel for the purpose of evaluating license applications.

O4 Certified raw materials from oil palms	Yes	No
Mark your answers with an X in the relevant column. If the answer to all the questions below is No, put an X in the column to the right.		
Does the raw material contain palm oil or palm kernel oil? This includes by-products, residues, and waste fractions from palm oil industries, such as palm fatty acid distillate and palm effluent sludge. If yes, is this palm oil/palm kernel oil RSPO certified? What is the traceability level? Mark below and state the certificate/licence number:		
No traceability		
Identity Preserved		
Segregated		
Mass Balance		
O5 Classification of ingoing substances	Yes	No
Does the raw material contain ingoing substances or impurities classified with any of the hazard codes below, including all classification variants (e.g. H350 also includes H350i)? If the answer to all the classifications below is No, put an X in the column to the right.		
H420 – Ozone		
H372 – STOT RE 1		
H334 – Resp. Sens. 1, 1A or 1B		
H317 – Skin Sens. 1, 1A or 1B		
H350 – Carc. 1A or 1B		
H351 – Carc. 2		
H340 – Muta. 1A or 1B		
H341 – Muta. 2		
H360 – Repr. 1A or 1B		
H361 – Repr 2		
H362 – Lact.		
EUH380 – ED HH 1		
EUH381 – ED HH 2		

EUH430 – ED ENV 1		
EUH431 – ED ENV 2		
EUH440 – PBT		
EUH441 – vPvB		
EUH450 – PMT		
EUH451 – vPvM		
O6 Excluded substances	Yes	No
Does the raw material contain any of the following substances?		
Alkylphenols (AP) (e.g. butylated hydroxy anisole (BHA, CAS No. 25013-16-5), butylated hydroxytoluene (BHT, CAS No. 128-37-0), alkylphenol ethoxylates (APEOs) and other alkylphenol derivatives (APD))		
Amphoacetates derivatives of N-hydroxyethyl imidazolines (EC No. 271-792-5, 271-794-6, 931-291-0,		
Aromatic solvents and carriers, incl. chlorotoluenes, chlorophenols and chlorobenzenes Solvents are defined in Directive 1999/13/EC: Organic substances with a vapour pressure of at least 0.01 kPa at 20 °C		
Benzalkonium chloride (CAS No. 8001-54-5)		
Bisphenols and bisphenol derivatives, defined as 34 bisphenols identified by ECHA for further EU regulatory risk management due to known or potential endocrine disruption or reproductive toxicity. EC/List No. 201-245-8 (BPA), 201-025-1 (BPB), 401-720-1 (4,4'-Isobutylethylidenediphenol), 216-036-7 (BPAF) and its 8 salts (278-305-5; 425-060-9; 443-330-4; 468-740-0; 469-080-6; 479-100-5; 943-265-6; 947-368-7), 201-250-5 (BPS), 201-240-0 (BPC), 204-279-1 (TBMD), 201-618-5 (6,6'-di-tert-butyl-4,4'-butylidenedi-m-cresol), 242-895-2, 248-607-1, 405-520-5 (D8), 217-121-1 (DAB), 227-033-5 (TMBPA), 210-658-2 (BPF), 411-570-9, 277-962-5 (contains BPS, 500-086-4 (contains BPA), 500-263-6 (contains BPA), 500-607-5 (contains BPA), 701-362-9, 904-653-0 (contains BPA), 908-912-9 (contains BPF), 926-571-4 (contains BPA), 931-252-8 (contains BPA), 941-992-3 (contains BPS), 943-503-9 (contains BPA)		
Boric acid, borates, and perborates		
Endocrine disruptors, potential or identified, listed in "Endocrine Disruptor Lists" List I, II or III		
Ethylenediamine tetraacetate (EDTA, CAS No. 60-00-4) and its salts and Diethylenetriamine pentaacetate (DTPA, CAS No. 67-43-6) and its salts		
Halogenated organic compounds		
Isothiazolinones (e.g. methylisothiazolinone (MIT), CAS No. 2682-20-4, metylchlorisothiazolinone (CMIT), C(M)IT/MIT (3:1), CAS No. 55965-84-9, CAS No. 26172-55-4, benzisothiazolinone (BIT), CAS No. 2634-33-5, octylisothiazolinone (OIT), CAS No. 26530-20-1 and dichlorooctylisothiazolinone (DCOIT), CAS No. 64359-81-5)		
Linear alkylbenzene sulphonates (LAS)		
Methyldibromo glutaronitrile (MG), CAS no. 35691-65-7		

Nanomaterials/-particles Defined according to the EU Commission Recommendation on the Definition of Nanomaterial (2022/C 229/01): 'Nanomaterial' means a natural, incidental or manufactured material consisting of solid particles that are present, either on their own or as identifiable constituent particles in aggregates or agglomerates, and where 50 % or more of these particles in the number-based size distribution fulfil at least one of the following conditions: <ul style="list-style-type: none"> a) one or more external dimensions of the particle are in the size range 1 nm to 100 nm b) the particle has an elongated shape, such as a rod, fibre or tube, where two external dimensions are smaller than 1 nm and the other dimension is larger than 100 nm c) the particle has a plate-like shape, where one external dimension is smaller than 1 nm and the other dimensions are larger than 100 nm 		
Nitro musks and polycyclic musk compounds		
NTA (nitrilo triacetic acid, CAS-no. 139-13-9), and its salts		
Organic chlorine compounds, hypochlorites and hypochlorous acid		
PBT and vPvB as defined in REACH Annex XIII, including those under ECHA PBT assessment https://echa.europa.eu/da/pbt		
Per- and polyfluoroalkyl substances (PFAS) PFAS is defined as any substance that contains at least one fully fluorinated methyl (CF ₃ -) or methylene (-CF ₂ -) carbon atom (without any H/Cl/Br/I attached to it)		
Phosphate, phosphonate, phosphonic acid and phosphoric acid		
Phthalates		
Quaternary ammonium compounds that are not readily aerobic biodegradable such as DTDMAC (CAS No. 61789-80-8), DSDMAC (CAS No. 107-64-2), DHTDMAC (CAS No. 61789-72-8) and DADMAC (CAS No. 7398-69-8)		
Siloxanes		
Silver, colloidal silver, or nanosilver		
Substances of Very High Concern on the REACH Candidate list of SVHC substances https://www.echa.europa.eu/candidate-list-table		
Volatile organic compounds (VOC)		

O7 Microplastics	Yes	No
Does the raw material contain polymers?		
<p data-bbox="193 300 1198 340">If yes, does the raw material contain polymers that are defined as microplastics*?</p> <p data-bbox="193 367 1198 430">If the raw material contains polymers that are not defined as microplastics*, please state how the polymers are excluded from the definition (please include test methods and results if relevant):</p> <hr data-bbox="193 488 1161 497"/> <hr data-bbox="193 555 1161 564"/> <p data-bbox="193 568 1198 622">* Definition: Microplastics are synthetic polymer microparticles as defined in REACH Regulation ((EC) No 1907/2006), Annex XVII, Entry no. 78:</p> <p data-bbox="193 627 1198 680">Synthetic polymer microparticles: polymers that are solid, and which fulfil both of the following conditions:</p> <p data-bbox="193 685 1198 748">a) are contained in particles and constitute at least 1% by weight of those particles; or build a continuous surface coating on particles.</p> <p data-bbox="193 752 1198 815">b) at least 1% by weight of the particles referred to in point (a) fulfil either of the following conditions:</p> <p data-bbox="225 784 1198 815">(i) all dimensions of the particles are equal to or less than 5 mm.</p> <p data-bbox="225 819 1198 882">(ii) the length of the particles is equal to or less than 15 mm and their length to diameter ratio is greater than 3.</p> <p data-bbox="193 887 1198 913">The following polymers are excluded from this designation:</p> <p data-bbox="193 918 1198 994">a) polymers that are the result of a polymerisation process that has taken place in nature, independently of the process through which they have been extracted, which are not chemically modified substances.</p> <p data-bbox="193 999 1198 1061">b) polymers that are biodegradable as proved in accordance with Appendix 15 [to REACH, Regulation (EC) No 1907/2006].</p> <p data-bbox="193 1066 1198 1128">c) polymers that have a solubility greater than 2 g/L as proved in accordance with Appendix 16 [to REACH, Regulation (EC) No 1907/2006].</p> <p data-bbox="193 1133 1198 1160">d) polymers that do not contain carbon atoms in their chemical structure.</p> <p data-bbox="193 1196 1198 1361"><i>N.B. The following "Conditions of restriction" paragraphs apply: 1 (concentration limit in mixtures), 2 (definitions), 3 (particle size limits). The remaining points do not apply, e.g. 4 (Paragraph 1 shall not apply to the placing on the market of:), e.g. 4(a) "synthetic polymer microparticles, as substances on their own or in mixtures, for use at industrial sites", 5 (derogations), e.g. 5 (b) "synthetic polymer microparticles the physical properties of which are permanently modified during intended end use in such a way that the polymer no longer falls within the scope of this entry".</i></p>		
O9 Fragrances	Yes	No
Does the raw material contain fragrances (incl. plant extracts)?		
If yes, please answer the following questions about fragrances:		
Have fragrances been added in line with IFRA guidelines? (IFRA, International Fragrance Association, www.ifraorg.org/)		
Does the fragrance contain BHT? (see O6)		
Does the raw material contain fragrance allergens that are judged to be sensitising with the hazard statement H317 and/or H334, or which are listed in Annex III of the Cosmetic Regulation? If yes, please send in perfume specifications.		
Does the raw material contain the fragrance allergens oak moss extract (Evernia prunastri, CAS No. 90028-68-5), tree moss extract (Evernia furfuracea, CAS No. 90028-67-4) or HICC (CAS No. 31906-04-4)?		
O10 Preservatives	Yes	No
Does the raw material contain preservatives?		
If yes, please state name and log Kow/BCF: _____		

O12 Long-term environmental effects	Yes	No
Does the raw material contain substances classified as environmentally hazardous with H410, H411 and H412? If yes, please state the amount (% by weight) per classification, and for H410 also state the M-factor: _____		

If the answer to any of the above questions is Yes, please provide the following information for each relevant substance: CAS No. (where possible), chemical name, concentration (in ppm, % by weight or mg/kg). Also state whether the substance is present as an ingoing substance or as an impurity.

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If the raw material composition changes, a new declaration confirming compliance with the requirements must be submitted to Nordic Ecolabelling.

Place and date	Company name
Responsible person	Signature of responsible person
Telephone	Email

Appendix 3 Analyses, test methods, and calculations

1A Requirements on the analysis laboratory for testing of ecotoxic effects, biodegradability, and inhalable aerosols

The analysis laboratory shall fulfil the general requirements of standard EN ISO/IEC 17025 or have official GLP status.

1B Requirements on the analysis laboratory for performance

The analysis laboratory shall fulfil the general requirements of standard EN ISO/IEC 17025 or have official GLP status.

The applicant's own laboratory, and external testing institutes that do not meet EN ISO/IEC 17025 or have official GLP status, may be approved to carry out performance tests. In this case, the following conditions must be met:

- The organisation must be ISO 9001 certified or certified according to the International Features Standards (IFS) standard for Household and Personal Care.
- The test laboratory must be covered by the certification, and the performance test must be included in the quality management system.
- Nordic Ecolabelling is to be given access to all the raw data from the performance test.

The applicant's own laboratory may be approved to carry out performance tests even if the test laboratory and the performance test are not covered by ISO 9001 or IFS standard for Household and Personal Care certification. The following conditions must be met:

- The organisation must have a quality assurance system, an ISO 9001 or IFS standard for Household and Personal Care certification. The laboratory and the performance test do not have to be within the certification, but it needs to be described in that system.
- Nordic Ecolabelling is to be given access to all the raw data from the performance test.
- The laboratory must document that the test method used is aimed at differentiating between different cleaning products, and that the results achieved are reproducible.
- It must be possible for Nordic Ecolabelling to come and observe the performance of a test.

2 Approved test methods

International test methods (OECD Guidelines for Testing of Chemicals, ISBN 92-64-1222144) or equivalent methods must be used for documentation. The relevant test methods are stated in the below sections. If equivalent methods are used, these must be assessed by an independent body and approved by Nordic Ecolabelling to ensure that the results are equivalent.

3 Aquatic toxicity

For acute aquatic toxicity, test methods no. 201, 202, 203, and 212 in the OECD Guideline are used. For chronic aquatic toxicity test methods no. 210, 211, 215 and 229 in the OECD Guideline are used. OECD 201 can be used as chronic test if chronic endpoints are chosen.

4 Bioaccumulation

Unless otherwise proven, a substance is considered bioaccumulating if tested for bioaccumulation on fish according to method OECD 305 A-E or OECD 321 and its bioconcentration factor (BCF) is >100 . If no BCF value has been determined, a substance is considered bioaccumulating if its logKow value ≥ 3.0 according to method 107, 117 or 123 in the OECD Guidelines for the Testing of Chemicals or equivalent method. If the maximum measured BCF ≤ 100 , the substance is not considered bioaccumulating even if logKow ≥ 3.0 .

OECD test method 107 cannot be applied to surfactants which have both fat and water-soluble properties. Based on what is known today, for such substances it must be demonstrated with a high degree of certainty that they and their degradation products do not pose any risk to aquatic organisms over a longer time perspective.

5 Aerobic biodegradability

For readily aerobic biodegradability test method no. 301 (A to F), 306 or 310 in the OECD Guidelines are used. For potential (inherently) biodegradability test method no. 302 (A to C) in the OECD Guidelines are used.

Other scientifically accepted test methods may also be used. The test results of such equivalent methods must be evaluated by an independent body.

6 Anaerobic biodegradability

For anaerobic degradability test method no. 311 in the OECD Guidelines, ISO 11734, or ECOTOC no. 28 (June 1988) are used.

Substances that are not surfactants and which are not included in the DID-list or for which data is missing on DID-list list may be exempt from the requirements on anaerobic degradability if they fulfil all the following requirements:

- Not toxic to aquatic organisms (NOEC/EC_x > 0.1 mg/l or E/LC₅₀ > 10 mg/l)
- Readily aerobically biodegradable
- Have low adsorption (A $< 25\%$) or high desorption (D $> 25\%$) or are not bioaccumulating

Testing for adsorption/desorption can be carried out under OECD guidelines 106 or under ISO 18749 "Water quality - Adsorption of substances on activated sludge - Batch test using specific analytical methods".

7 DID list

The DID-list, Detergent Ingredient Database has been developed to facilitate the ecolabel application process and is a tool to rank chemicals and thus make it easier for licence holders and producers to choose less environmentally harmful chemicals in their products. The list contains information on toxicity and degradability of several substances that are used in chemical products.

The substances on the DID-list cannot be seen as an overview of substances that are contained in ecolabelled products, and the DID-list cannot be used to document the toxicity of the individual substances in connection with the classification rules. Here, information from safety data sheets, literature or the raw materials producer must be used.

The DID-list can be obtained from the ecolabelling organisation or the website of the respective country. If a substance is not included on the DID-list, or biodegradability data is missing, the methods described in part B of the DID-list must be used. For these criteria, the DID-list dated 2023 or later versions apply.

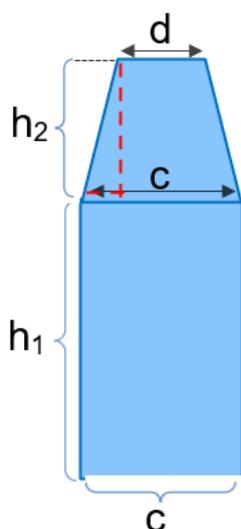
8 Calculation of coverage of label on plastic packaging

Below follows a description of how the calculation of coverage of labels on plastic containers should be carried out. The calculations can be done in Nordic Ecolabelling's calculation sheet for packaging.

Calculation for a non-cylindrical bottle:

The calculation of the percentage shall be based on the two-dimensional profile of the container i.e., the area of the top and bottom of the packaging and the sides of a box/container/bottle/can shall not be included in the calculation. If the label on the front of pack and back of the packaging are of different size, the maximum percentage shall be fulfilled for each side separately.

The illustration below shows an example of the measurements involved in the calculation of the total area of a non-cylindrical container:



The following formulas can be used to calculate the area:

$$\text{Area } A_1 = c \cdot h_1$$

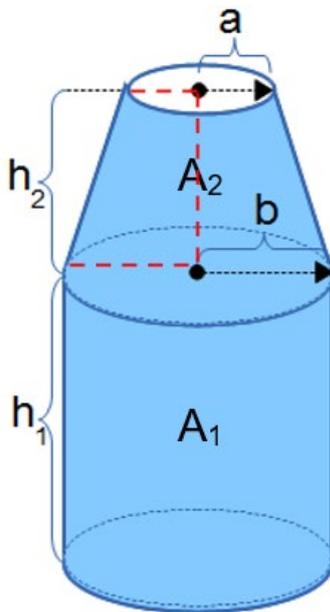
$$\text{Area } A_2 = \frac{h_2 \cdot (c + d)}{2}$$

$$\text{Total area } A = A_1 + A_2$$

Calculation for a cylindrical bottle:

For a cylindrical container, the calculation shall be based on the three-dimensional profile excluding the bottom and top of the container.

The illustration below shows the measurements involved in the calculation of the total area of a cylindrical container:



The following formulas can be used to calculate the area:

$$\text{Area } A_1 = 2 \cdot \pi \cdot b \cdot h_1$$

$$\text{Area } A_2 = \pi \cdot (b + a) \cdot \sqrt{h_2^2 + (b - a)^2}$$

$$\text{Total area } A = A_1 + A_2$$

Appendix 4 Declaration from the manufacturer of the primary packaging including closures

To be used in conjunction with an application for a licence for the Nordic Ecolabelling of cleaning products. Ecolabelling of cleaning products.

This declaration is based on the knowledge we have at the time of the application, based on tests and/or declarations from raw material manufacturers, with reservations for new advances and new knowledge. Should such new knowledge arise, the undersigned is obliged to submit an updated declaration to Nordic Ecolabelling.

Producer/distributor
Part of the packaging (bottle, pouch, closure, label)
Packaging material (type of plastic: PE, PET, PP; cardboard; etc.)

Plastic packaging (includes bottle) (O17)	Yes	No
For dispensing systems (e.g. a spray trigger): Does it contain small parts of other materials than PE (polyethylene), PP (polypropylene) or PET (polyethylene terephthalate)?		
If yes, does it contain PS, PVC or other halogenated plastics?		
Is the plastic packaging white or transparent?		
Is the plastic packaging coloured/tinted with carbon black?		
Has carbon black been added to the plastic packaging? If so, can the NIR sensor read and sort the plastic packaging into the correct plastic fraction? Please submit test results or other documentation showing correct reading/sorting.		
Are there metal coverings, metal seals or other metal parts?		
Are fillers used? If yes, state concentration and density of the plastic: _____		
Does the packaging contain post-consumer recycled/regrind material (PCR)? (O21) If yes, what is the content of recycled material (in %)? _____		

Label and shrink film label (O18)	Yes	No
Please specify the label material and density: _____		
Is there PS or PVC or plastics based on other types of halogenated plastics present in the label?		
Are there metal parts in the label such as metallized labels?		
Is the printing ink used compliant with EuPIA's exclusion policy*? * https://www.eupia.org/wp-content/uploads/2024/03/20240313-EuPIA_Exclusion_Policy_for_Printing_Inks_and_Related_Products_-March-2024_6th-Edition-v1-1.pdf		
Does the label contain post-consumer recycled/regrind material (PCR)? (O21) If yes, what is the percentage of PCR material? _____		
Plastic packaging: pouches (O19)	Yes	No
Is the packaging of monomaterial, i.e. not laminates with different material layers?		
Does the pouch valve contain parts of other materials than PE, PP or PET? If yes, does it contain parts of PS, PVC or other halogenated plastics?		
Is the pouch white or transparent?		
Is the pouch tinted/coloured with carbon black?		
Has carbon black been added to the pouch? Has carbon black been added to other elements than text and pictogram? If so, can the NIR sensor read and sort the pouch into the correct plastic fraction? If yes, please submit test results or other documentation showing correct reading/sorting.		
Are fillers used? If yes, state concentration and density of the plastic: _____		
Is there a barrier coating of EVOH (Ethylene vinyl alcohol) in the packaging? If yes, does the EVOH barrier coating constitute max 5% of the weight of the film?		
Does the packaging contain postconsumer recycled/regrind material (PCR)? (O21) If yes, what is the content of recycled material (in %)? _____		
Closure (includes cork / lid and mounted dosing devices / pumps)	Yes	No
Is there PS (Polystyrene) or PVC or plastics based on other types of halogenated plastics present in the closure? (O17 & O19)		
Is the closure black? (O17 & O19)		
Has carbon black been added to the closure? (O17 & O19) If so, can the NIR sensor read and sort the closure into the correct plastic fraction? Please submit test results or other documentation showing correct reading/sorting.		
Are there metal parts in the closure, such as metal in foam trigger? (O17) What is the density (g/cm ³) of the closure? _____		

Does the closure contain post-consumer recycled/regrind material (PCR)? (O21) If yes, what is the content of recycled material (in %)? _____		
If the closure is a trigger to a foam/spray product: Does it have a permanent aerosol reducing foaming nozzle? (O21) Permanent means that it is fixed in foaming position. Please describe the ingoing materials (in percentage) in the trigger: _____ _____ _____		
Cardboard packaging for liquid products: Design for recycling	Yes	No
Is at least 90% of the packaging made from bio-based material* of post-consumer/commercial recycled material (PCR) or a combination of these? Calculations to verify this can be done in the scheme below this table.		
Is halogenated plastics (e.g. PVC or PVDC), oxo-degradable plastic or biodegradable plastic used in the packaging?		
Is the component surface treated with PFAS (on the inside or outside)? PFAS is defined as any substance that contains at least one fully fluorinated methyl (CF3-) or methylene (-CF2-) carbon atom (without any H/Cl/Br/I attached to it).		
Is metal used in the packaging?		
Are labels/covers used on the packaging? If yes, is it removable labels/covers on the closure added to indicate, that the product is not a food item?		
Is the printing ink compliant with EuPIA's exclusion policy? https://www.eupia.org/wp-content/uploads/2024/03/20240313-EuPIA_Exclusion_Policy_for_Printing_Inks_and_Related_Products_-March-2024_6th-Edition-v1-1.pdf		
Paper/paperboard		
Does the wood raw material used in the paper/paperboard originate from forestry certified under the FSC (Forest Stewardship Council) or PEFC (Program for the Endorsement of Forest Certification) schemes? State % of FSC or PEFC certified content:_____		
Does the wood raw material used in the paper/paperboard originate from PCR material? State % of the PCR material content:_____		
Is the remaining proportion of wood raw material, covered by the FSC/PEFC control schemes (FSC controlled wood/PEFC controlled sources)?		
Bio-based plastic		
Is palm oil incl. PFAD and POME, soy oil or soy flour used as raw material for the bio-based polymer?		
Is the origin of the bio-based raw materials verified as waste or residual products defined in accordance with (EU) Renewable Energy Directive 2018/2001?		

Is the origin of the waste certified by one of the following certification schemes: Bonsucro EU ISCC EU or ISCC Plus Others (please see Appendix 8 in the criteria for methods that meet Nordic Ecolabelling's requirements for raw material standards)? State certification scheme: _____		
If mass balance approach is used, is the traceability level based on book and claim?		
Paper or cardboard or packaging (other than cardboard packaging for liquid products)	Yes	No
Does the paper/carton/packaging contain postconsumer regrind/recycled material (PCR)? (O21) If yes, what is the content of recycled material (in %)? _____		

Signature of the packaging producer

Place and date	Company name/stamp
Responsible person:	Signature of responsible person
Telephone	E-mail

Appendix 5 Laboratory Test

This appendix contains a description of how the performance test of cleaning products is to be carried out and how the result is to be documented to Nordic Ecolabelling.

Dose

The lowest specified dosage for normal soil of the test product and the reference product respectively shall be used for the performance test.

The reference product

The reference product must be:

- Recently purchased, and
- Intended for the same area of use (e.g. kitchen, sanitary, window) and belong to the same product category (professional, consumer, RTU) as the product, and
- A product in a conventional format (e.g., liquid, gel, powder, tablet) that is well-established/well-known in the market.

The manufacturer can compare the product for which they apply the Nordic Swan Ecolabel with a self-produced product if the previously stated conditions are met.

Micro-organism-based products are to be compared to an equivalent product without micro-organisms.

Surfaces

The surfaces on which the products are tested must be relevant to the area of use in respect of which the product is marketed. If other surfaces have been chosen must this be explained. The surfaces should be cleaned before taking the first measurement, to reduce background variability. Then the soil can be applied.

Soil

The soil mixture must be relevant to the product's intended area of use according to the following table 1. Products marketed for several different areas of use or other types of soil than those mentioned in the table must be tested for these areas of use and soil types, which may include soil types not be listed in the table (for example, protein and starch). The soil mixture must be as follows: relevant to the area of use of the product – homogenous – based on well-described and internationally available substances.

Table 1 Soil(s)

Product/Area of use	Soil(s)
Sanitary cleaner	Lime soap and limescale (calcium deposits)
WC cleaner	Limescale (calcium deposits)
All-purpose cleaner and kitchen cleaner	Fat
Wash polish/wash-and-wax care products	Fat
Window and glass cleaner	Fat (fingerprints) and particulate matter (dust and/or soot).
Oven cleaners	Burned. The dirt should contain a mixture of fats, proteins and carbohydrates.
Coffee machine cleaners	Coffee oil and limescale (calcium deposits)

Kitchen equipment cleaners	Fat
Dishwashing machines cleaners	Fat and limescale (calcium deposits)
Laundry machine cleaners	Limescale (calcium deposits), biological material*
Outdoor cleaners	Soot, fat, oil, asphalt (bitumen), biological material*
Products containing micro-organisms	Soils relevant to the area of use above. Also, test for degradation of protein, starch, fat/vegetable oil (see requirement O11)

**Note that products claiming biocidal effects such as limiting or hindering the growth of biological material (algae, mould, bacteria) cannot be Nordic Swan Ecolabelled, see section "What can carry the Nordic Swan Ecolabel?". This requirement refers to the ability to wash off biological material.*

Method of cleaning

The method of cleaning shall be relevant to the product type. For cleaning products for machines, the product shall be tested in the machine if possible (e.g. a dishwashing machine). If it's not possible to test the product in the machine, soiled surface(s) shall be submerged in the diluted solution with minimal mechanical action (slow stirring of the solution).

The test shall be performed for the soil types specified in Table 1 that are relevant to the product's area of use and to any additional soil types for which the product is marketed.

De-scaling performance can be determined by gravimetric analysis. Fat-removing performance is determined by reflectance. The removal of particulate can be determined by gravimetric analysis or reflectance.

Description of the test

The same number of repetitions shall be performed for the test product, reference product, and water (at least 10 per product). One batch of soil that is sufficient to all tests shall be used. The soil shall be applied to at least 30 test pieces of a relevant material. Refer to item 3 "Surfaces". Following this, the tests shall be performed using the test product, reference product, and water.

The test shall be performed using a random selection of soiled test pieces, i.e. at least 10 pieces shall be chosen at random for the test product, the same number for the reference product, and the same number for the water test.

The reflectance of all surfaces must be measured before the soil is applied, after the soil has been applied, and after washing.

Reflectance can also be determined visually if it is clearly explained how this assessment is conducted in a reproducible manner.

Effectiveness, EFF, is calculated separately for each surface and recorded in a table.

Calculation of the wash effectiveness index (EFF)

The wash effectiveness index is calculated using the following formula:

$$EFF = (R_c - R_b) / (R_a - R_b)$$

R_a = Reflectance before soiling (i.e. on a clean surface)

R_b = Reflectance after soiling

R_c = Reflectance after washing

This is performed for each individual parallel of the product, the reference product, and water.

The following must also be calculated:

EFF_p = Average EFF value for the product undergoing testing

EFF_r = Average EFF value for the reference product

EFF_w = Average EFF value for water

Requirement level

Cleaning effects must be demonstrated in accordance with one of the following requirements:

Alternative A:

It must be shown with a 95% unilateral confidence interval that the test product has a wash effectiveness that is greater than or equal to that of the reference product,

or

Alternative B:

$EFF_p \geq EFF_r$

The following cleaning effects must be shown per product category:

Table 2 Cleaning effects per product category

Product/Area of use	Cleaning effect(s)
Sanitary cleaner	Removal of calcium and fat
WC cleaner	Removal of calcium
All-purpose cleaner and kitchen cleaner	Removal of fat
Wash polish/wash-and-wax care products	Removal of fat
Window and glass cleaner	Removal of fat and particulates
Oven cleaners	Removal of burned soil including fats, proteins and carbohydrates
Coffee machine cleaners	Removal of coffee oil and calcium
Kitchen equipment cleaners	Removal of fat
Dishwashing machines cleaners	Removal of fat and calcium
Laundry machine cleaners	Removal of calcium
Outdoor cleaners	Removal of soot, fat, oil, asphalt (bitumen) and biological material*
Products containing micro-organisms	Removal of soils relevant to the area of use above. Also, test for degradation of protein, starch, fat/vegetable oil (see requirement O11)

Wash effectiveness better than water

All product tests shall also demonstrate that the results are better than water alone.

Irrespective of the method of evaluation (alternative A or B), the following shall be fulfilled:

$$EFF_p > EFF_w$$

Prolonged effectivity test for products containing micro-organisms

In addition to the applicable test for efficiency, it should also be demonstrated in a laboratory test that products containing micro-organisms degrade protein, starch, and fat/vegetable oil continuously over a prolonged period as claimed by the manufacturer, otherwise, 7 days (see requirement O11). Daily measurements should be recorded for the following:

- Protein - degradation of proteins shown as degradation on standard casein agar medium or through other scientifically acknowledged medium displaying protein degradation.
- Starch - degradation of starch shown as degradation on standard starch agar or through other scientifically acknowledged medium displaying starch degradation.
- Fat and/or vegetable oil: degradation shown as degradation on "Spirit Blue"-agar medium or through other scientifically acknowledged medium.

Documentation

The entire test shall be reported in accordance with the framework specified above. The report must contain the following points:

- The formulation number providing linkage to the product name and the version of the recipe that is specified in the licence application.
- The applicant shall state the dose of the product and of the reference product.
- The applicant shall answer the following:
 - a) How long has the reference product been on the market?
 - b) What areas of application do the product and the reference product have in common?
 - c) Why was this product chosen as the reference product?
 - d) What type of surface was used in the test?
 - e) Why is this surface relevant?
 - f) Is the product gentle on this type of surface?
- State the formula for the soil
- State why the composition of the soil is relevant to the area of use of the product.
- Describe the method of cleaning and how this method is relevant.
- Describe how soiling, washing and measurement/detection were performed.
- Specify raw data from the weighing and values from the reflectance measurements.
- All raw data from all tests shall be submitted.
- Wash effectiveness EFF, stated to two significant figures, is calculated separately for each surface. An average is then calculated for the test product, reference product and water respectively.
- Calculations according to requirement level alternative A or B demonstrating that the requirement is fulfilled.

- The cleaning performance of the test product in comparison to water shall be specified.
- Final results based on this raw data (and, if applicable, a statistical evaluation of the data).
- Only for products containing micro-organisms: documentation of degradation over time of protein, starch, and fat/vegetable oil

Appendix 6 User test: Information and requirements

Professional cleaning products can fulfil the performance test requirement with a laboratory test or a user test. This appendix describes the way in which a user test for a professional cleaning product is to be performed.

Professional cleaning products for kitchen equipment and household machines (e.g. dishwashing machine and laundry machine) and all consumer products must be tested in a laboratory, see Appendix 5. Products containing micro-organisms must demonstrate residual cleaning effects via the laboratory test as instructed in Appendix 5.

These instructions apply to all professional cleaning product types except wash polish/wash-and-wax care products. The wash polish/wash-and-wax product user test does not use a reference product and therefore has separate user test instructions in Appendix 7.

The purpose of the test is to demonstrate whether the test product for which a Nordic Swan Ecolabel licence is sought is as good as or better than a comparative product. The test must also demonstrate whether the test product is abrasive to or otherwise harms the surfaces on which it is marketed for use.

Quality requirements

At least 80% of the test persons must assess the product to be as good as or better than the reference product to fulfil the performance test.

Test individuals

Test individuals must be professional cleaning staff. At least five professional users shall test the product. The five individuals shall be randomly chosen and shall come from at least five different companies/organisations/institutions.

The reference product:

The test product must be compared with the product normally used by the user. The reference product must not be the same as the test product. The test product and the reference products may be produced by the same manufacturer.

Micro-organism based products are to be compared to an equivalent product without micro-organisms.

Performance of the test:

The test must be performed on the type(s) of surface relevance in relation to the recommendations on the product label.

The dosage used must be the minimum dosage specified on the label for normal soil. I.e. if the normal dosage of the label is specified as an interval, the lowest* quantity in this interval must be used. Likewise, the dosage of the comparative reference product must be the lowest recommended dosage for normal soil.

*If other dosage is used than the lowest in the interval this needs to be clearly motivated.

The duration of the test period must be sufficient for the test product to be used at least five times by the test user on the same place.

Performance questionnaire

The questionnaire for the user test is found in this appendix starting on the next page. Each test individual must complete all questions on the questionnaire. In the table for the assessment of the product, all general questions should be answered as well as any questions that are specific to the type of cleaner tested. One questionnaire shall be completed per product per user.

Responses shall be tabulated by the applicant in the "Summary of the results" form in this appendix.

The formulation of the test product at the time of the performance test must be the same as that submitted in the application to Nordic Ecolabelling.

Performance test by professional users of cleaning products

To be completed by the professional cleaning staff who is testing the product.

Information about the test

Name of test product (= the new product): _____

Dosing of test product: _____

Name of reference product (= the product that is normally used): _____

Producer/brand of reference product: _____

Dosing of reference product: _____

Types of surfaces on which the test product is used. Specify the material (e.g. stone, tiles, linoleum, wood, painted surface, stainless steel).

Tables: _____

Fixtures/furnishings: _____

Walls: _____

Ceilings: _____

Wash basin: _____

Bathroom cabinets: _____

Bathroom tiles: _____

WC: _____

Floors - state type: (stone, tile, terrazzo, or other): _____

Textile floors: _____

Windows

Mirrors

Other glass surfaces: _____

Kitchen equipment: _____

Dishwashing machine: _____

Laundry machine: _____

Outdoor wooden terrace: _____

Outdoor stone floor: _____

Outdoor wooden facade: _____

Outdoor stone facade: _____

Other: _____

Test period

Start date: _____ End date: _____

How many times was the test product used on the same surface during the specified test period?

How long have you been using the comparative product? _____

How frequently (approximately) do you use the comparative product? _____

Use

How has the product been used (manually, floor machine, mop, etc.)? _____

Where has the product been used? In which areas of use has the test been performed (kitchen, bathroom, school, office, restaurant, hotel, outdoors)?

Which types of soils have been most problematic in this area (e.g., calcium deposits, soap, oil, fat, asphalt, soot, biological material)?

Assessment of the product

On completion of the tests, the test product shall be compared to the reference product and assessed using the following table. Answer all the general questions plus any of the questions for specific cleaner types that apply.

	Poorer	As good as	Better
General questions (answered for all cleaner types):			
How do you consider the test product's ability to remove soils compared to the reference product?			
How do you consider the test product's gentleness to the cleaned surface compared to the reference product?			
How effective do you consider the test product in comparison to the reference product?			
WC / Sanitary cleaners			
In the case of acid products: The ability of the test product to remove calcium deposits is:			
In the case of alkaline products: How do you consider the ability of the test product to prevent calcium deposits is compared to the reference product?			
Window / glass cleaners			
How do you rate the test product's ability to remove dirt (mainly fine particles) compared to the control product?			

How do you rate the test product's ability to remove grease (mainly finger marks) compared to the control product?			
Does the test product leave streaks or residue on the surface to a greater extent than the control product?			
Products with microorganisms			
How do you consider the products residual cleaning effects, i.e., the ability to degrade fat, starch and protein continuously over a prolonged period as claimed by the manufacturer, otherwise, 7 days?			
Outdoor cleaners			
How do you rate the test product's ability to remove dirt such as oil, fat, soot, asphalt and biological material compared to the reference product?			
Textile floor cleaners			
How do you consider the test product's ability to remove stains on the surface compared to the reference product?			
How do you consider the test product's gentleness to the cleaned surface (for example colour fastness, moist, wear on the carpet) compared to the reference product?			

Comments: _____

Information on the user test site

The cleaning test and the associated assessment were performed by:

Company name: _____

Company address: _____

Contact person: _____

Telephone: _____

E-mail: _____

Further description of the site at which the cleaning test was performed:

Was the user test performed by professional cleaning staff? _____

If questions regarding the test arise, Nordic Ecolabelling will first contact the producer of the cleaning product but may also contact test individuals.

Signature or Stamp of company performing the user test:

Summary of the results for user test of cleaning products

To be completed by the applicant for a Nordic Swan Ecolabel licence.

Date: _____

Name of test product: _____

Description of the selection of test individuals: _____

Were all individuals carrying out the user test professional cleaning staff? (Note: this is a requirement.) _____

How many questionnaires were sent out? _____

How many responses were received? _____

Table for the collation of answers

The results from the questionnaires shall be collated in the appropriate table below. Results are given in % of the total number of responses. Collate answers for all the general questions plus any answers for specific cleaner types that apply.

	Poorer (%)	As good as (%)	Better (%)
General questions (answered for all cleaner types):			
How do you consider the test product's ability to remove soils compared to the reference product?'			
How do you consider the test product's gentleness to the cleaned surface compared to the reference product?'			
How effective do you consider the test product in comparison to the reference product?			
WC / Sanitary cleaners			
In the case of acid products: The ability of the test product to remove calcium deposits is:			
In the case of alkaline products: How do you consider the ability of the test product to prevent calcium deposits is compared to the reference product?			
Window / glass cleaners			
How do you rate the test product's ability to remove dirt (mainly fine particles) compared to the control product?			
How do you rate the test product's ability to remove grease (mainly finger marks) compared to the control product?			
Does the test product leave streaks or residue on the surface to a greater extent than the control product?			
Products with microorganisms			

How do you consider the products residual cleaning effects, i.e., the ability to degrade fat, starch and protein continuously over a prolonged period as claimed by the manufacturer, otherwise, 7 days?			
Outdoor cleaners			
How do you rate the test product's ability to remove dirt such as oil, fat, soot, asphalt and biological material compared to the reference product?			
Textile floor cleaners			
How do you consider the test product's ability to remove stains on the surface compared to the reference product?			
How do you consider the test product's gentleness to the cleaned surface (for example colour fastness, moist, wear on the carpet) compared to the reference product?			

Comments _____

Signature of the applicant

City and Date	Company
Name of contact person	Signature by contact person
Telephone	E-mail

Appendix 7 User test for wash polish/wash-and-wax care products

This section applies only to professional wash polish/wash-and-wax care products.

(See Appendix 6 for user test instructions and forms for all other professional cleaning products.)

Products containing micro-organisms must demonstrate residual cleaning effects via the laboratory test as instructed in Appendix 5.

The following requirements apply

- The product must be used by at least 5 users for 3 months.
- The product must be used with satisfactory results on the types of substrates for which the maintenance product is intended.
- The traffic conditions under which the products are to be tested must correspond to normal traffic in corridors in large office buildings.

In the user test, the user allocates points for various properties, with 5 being the highest score and 1 the lowest score. No reference product is required for this test.

Test individuals

Test individuals must be professional cleaning staff. At least five professional users shall test the product. The five individuals shall be randomly chosen and shall come from at least five different companies/organisations/institutions.

The types of floors that must be tested

- The test must include all of the floor types for which the product is marketed. This means at least one user per floor type.

Requirements applicable to the individual parameter

- A score of 1 must not be awarded by a user for any parameter.

Overall assessment of the product

- A score of at least 3 must be given by at least 80% of all users.
- A score of 1 must not be awarded by any of the users.

For each product, the individual parameters must be assessed separately (test parameters). In the case of non-standard products, Nordic Ecolabelling may permit the user's report to add a further point's assessment for other overall properties. The table below shall be used.

Performance test by professional users of wash polish/wash-and-wax care products

To be completed by the professional cleaning staff who is testing the product.

Instructions:

- Test the product on floors under normal conditions (normal traffic, typical soiling, etc.) for 3 months
- Complete the table below with 5 being the highest score and 1 the lowest score. Please answer all questions.

Table A. Wash polish/wash-and-wax care product test results

Product type	Floor type	Test parameter	Performance (1-5, where 5 is best)
Name of Wash polish/ wash-and-wax care product:	Types of floor for which the product is intended (to be completed by the manufacturer):	Application How is the product to apply/distribution capacity? _____	
		Foaming: Is the foam level low when applying the product? Alternatively, is the foaming satisfactory during application? _____	
		Odour of the product? _____	
		Cleaning/maintenance with the product Ability to avoid re-soiling of the floor? _____	
		Ability to maintain the gloss of the floor? _____	
		Slip resistance? _____	
		Water resistance? _____	
		Cleaning ability? _____	
		Only for products with micro-organisms: How do you consider the products residual cleaning effects, i.e., the ability to degrade fat, starch and protein continuously over a prolonged period as claimed by the manufacturer, otherwise, 7 days? _____	
		Overall assessment of the product (other parameters such as removal, drying time before next coat, wear resistance etc. can also be included here): _____	

Test period:
Floor type/substrate:
Are polishing machines used?
Comments on overall assessment:

Information on the user site

The cleaning test and the associated assessment were performed by:

Company name: _____

Company address: _____

Contact person: _____

Telephone: _____

E-mail: _____

Further description of the site at which the cleaning test was performed:

If questions regarding the test arise, Nordic Ecolabelling will first contact the producer of the cleaning product but may also contact test individuals.

Signature or Stamp of company performing the user test:

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Summary of the results for user test of wash polish/wash-and-wax care products

To be completed by the applicant for a Nordic Swan Ecolabel licence.

Date: _____

Name of test product: _____

Description of the selection of test individuals: _____

Were all individuals carrying out the user test professional cleaning staff? (Note: this is a requirement.) _____

How many questionnaires were sent out? _____

How many responses were received? _____

Table for the collation of answers

The results from the questionnaires shall be collated in the appropriate table below:

Results are given in % of the total number of responses.

Table 1 Summary of results for wash polish/wash-and-wax care products

Wash polish/wash-and-wax care products	% replies with following points		
	5, 4 or 3	2	1
How is the product to apply/distribution capacity?			
Foaming: Is the foam level low when applying the product? Alternatively, is the foaming satisfactory during application?			
Odour of the product			
Ability to avoid re-soiling of the surface			
Durability of the gloss on the floor			
Slip resistance			
Water resistance			
Cleaning effect			
Only for products with micro-organisms: How do you consider the products residual cleaning effects, i.e., the ability to degrade fat, starch and protein continuously over a prolonged period as claimed by the manufacturer, otherwise, 7 days?			
Overall assessment of the product (other parameters such as removal, drying time before next coat, wear resistance etc. can also be included here)			

Comments:

Signature of the applicant

City and Date	Company
Name of contact person	Signature by contact person
Telephone	E-mail

Appendix 8 Directions for raw material standards and certification schemes

This appendix is relevant only for requirement O20 Cardboard packaging for liquid products: Design for recycling

Nordic Ecolabelling sets requirements on the standards to which feedstock is certified. These requirements are described below. Each individual raw material/feedstock standard or certification scheme is reviewed by Nordic Ecolabelling as to fulfilment of the requirements. When a raw material/feedstock standard is revised, it is reviewed again by Nordic Ecolabelling.

Requirements on raw material standards

The standard must balance economic, ecological and social interests and comply with the Rio Declaration's forestry principles, Agenda 21 and the Forest Principles, and respect relevant international conventions and agreements.

The standard must contain absolute requirements and promote and contribute towards sustainable cultivation of raw materials. Nordic Ecolabelling places special emphasis on the standard including effective requirements to protect the forest from illegal felling and that the requirements protect the biodiversity of the forest.

The standard must be available to the general public. The standard must have been developed in an open process in which stakeholders with ecological, economic and social interests have been invited to participate.

The requirements related to standards are formulated as process requirements. The basis is that if stakeholders agree on the economic, social and environmental aspects of the forestry/feedstock standard, this safeguards an acceptable requirement level.

If a standard is developed or approved by stakeholders with ecological, economic and social interests, the standard may maintain an acceptable standard. Accordingly, Nordic Ecolabelling requires that the standard balances these three interests and that representatives from all three areas are invited to participate in development of the standard.

The standard must set absolute requirements that must be fulfilled for the certification of the feedstock. This ensures that the forest management fulfils an acceptable level regards the environment. When Nordic Ecolabelling requires that the standard shall "promote and contribute towards sustainable cultivation", the standard must be assessed and revised regularly to initiate process improvement and successively reduce environmental impact.

Requirements on certification system

The certification system must be open, have significant national or international credibility and be able to verify that the requirements in the forestry standard are fulfilled.

Requirements on certification body

The certification body must be independent, credible and capable of verifying that the requirements of the standard have been fulfilled. The certification body must also be able to communicate the results and to facilitate the effective implementation of the standard.

The purpose of certification is to ensure that the requirements regarding raw material/feedstock standards are fulfilled. The certification system must be designed to verify that the requirements of the forest standard are fulfilled. The method used for certification must be repeatable and applicable to relevant feedstock/forestry. Certification must be in respect to a specific raw material standard. The forest must be inspected prior to certification.

Requirements on Chain of Custody (CoC) certification

Chain of Custody certification must be issued by an accredited, competent third party (as for forest certification).

The system shall stipulate requirements regarding the chain of custody that assure traceability, documentation and controls throughout the production chain.

Documentation

Copy of raw material standard, name, address and telephone number to the organization who has worked out the standard and audit reports.

References to persons who represents stakeholders with ecological, economic and social interests who have been invited to participate.

Nordic Ecolabelling may request further documents to examine whether the requirements of the forestry standard and certification system in question can be approved.